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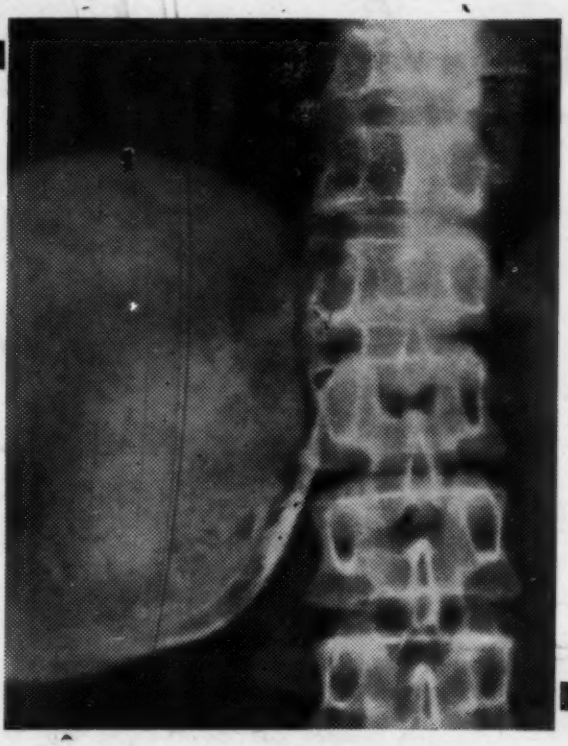

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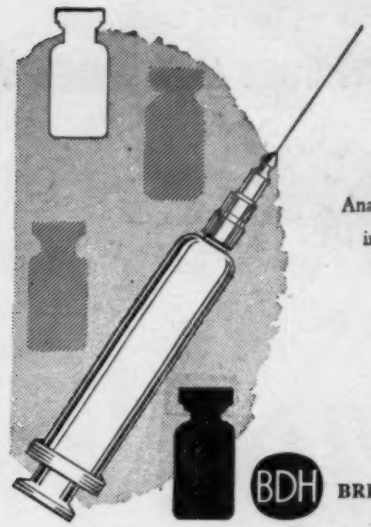

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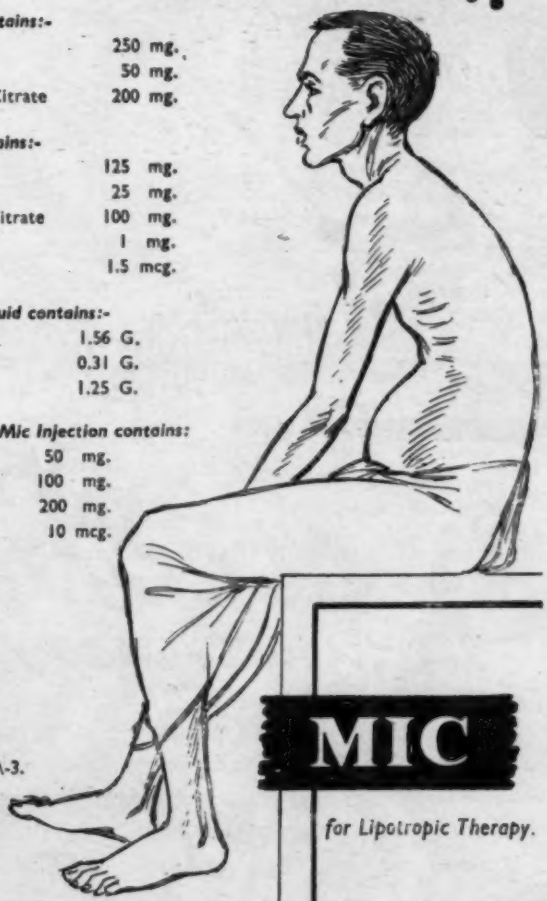

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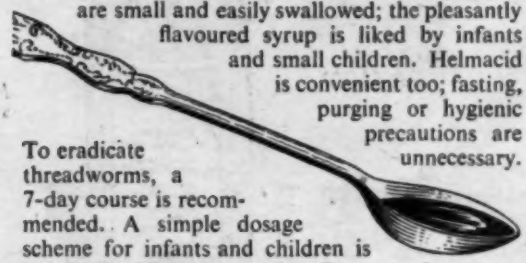

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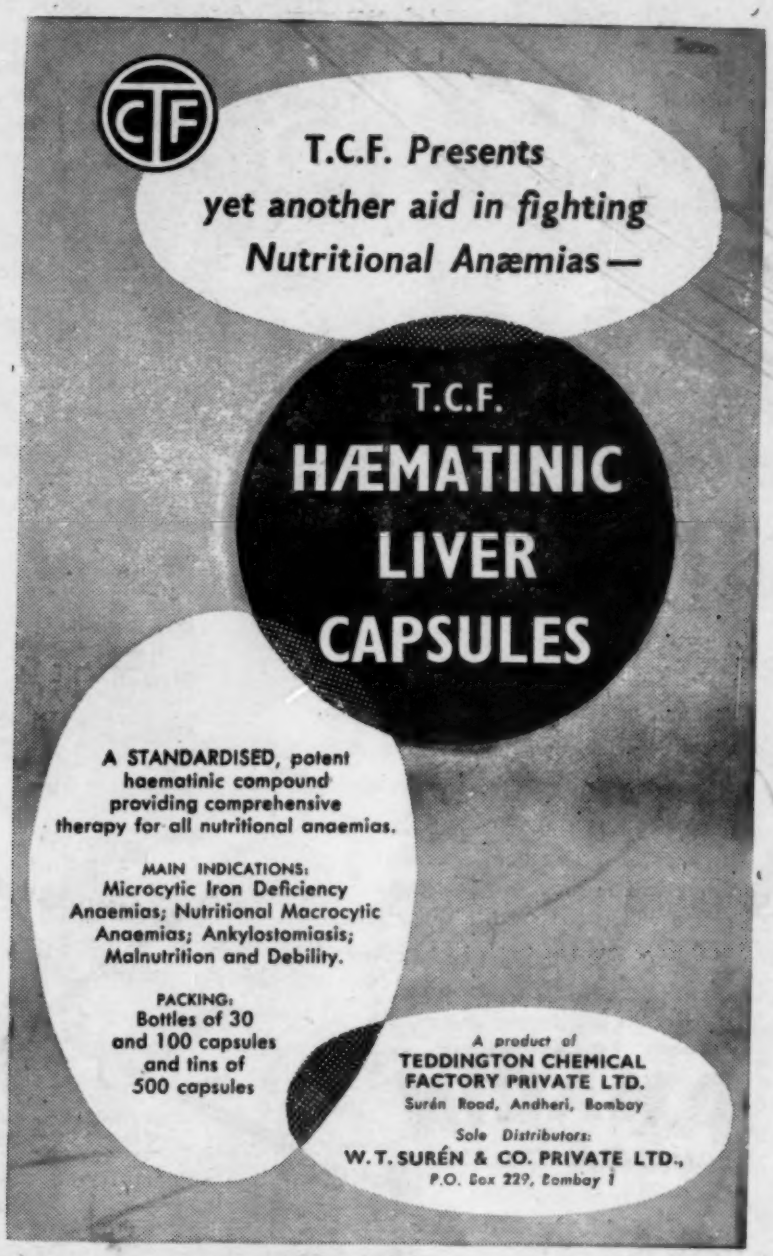
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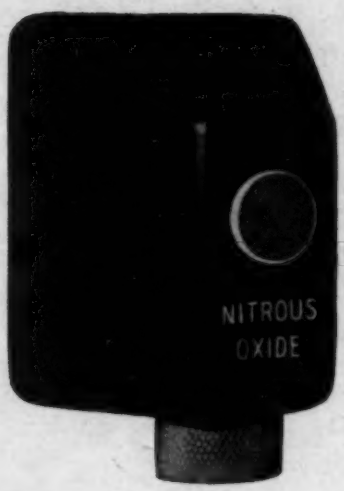

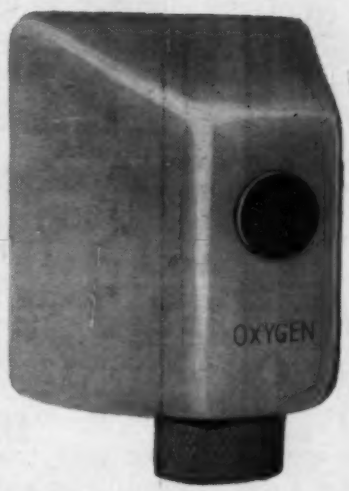

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ORIGINAL ARTICLES

CHRONIC SPLENOMEGALY IN BENGAL †

R. N. CHAUDHURI, M.B., M.R.C.P., T.D.D., F.N.I.,

Professor of Tropical Medicine and Director, School of Tropical Medicine, Calcutta

INTRODUCTION

Enlargement of the spleen is a common condition in Bengal and most frequent causes are active malaria and leishmania infections. One sometimes, however, comes across cases in whom the cause of enlargement is not so obvious. Typically in a fully developed form, the chief features are: considerable enlargement of the spleen generally with some increase in the size of the liver, anaemia, leucopenia and frequently thrombocytopenia. Patients are weak and asthenic, often emaciated with a tendency to develop various complications (Napier, 1927, 1943; De, 1932, 1937; De and Tribedi, 1939; Chatterjee, 1931, 1934; Sengupta, 1943; Chakravarty *et al*, 1954 and Chaudhuri *et al*, 1955, 1956a). It is a very chronic disease or rather a syndrome which is usually not accorded sufficient space in text books. The onset is insidious often starting with intermittent fever simulating malaria. But at this stage no malarial parasites are usually found in the blood, while kala-azar is readily excluded and Cooley's anaemia or other haematological disorders by blood, bone marrow and other examinations. The patients are mostly from the poor class of society in the rural areas often with evidences of malnutrition. Big scars are often seen on the abdomen due to local application of counter-irritants with the idea of reducing the size of the spleen. The patients are sometimes given antimony injections on suspicion of kala-azar and such articles of diet as milk are often withheld for fear of 'spleen and liver', which tend to worsen the condition.

During the last few years we made a special study of a series of cases of chronic splenic enlargement for which no cause was at first apparent and this article is based mainly on the results of the investigation and treatment of 134 patients admitted to the hospital.

THE CLINICAL PICTURE

All the patients were Indians and mostly came from West Bengal and East Pakistan, and the rest from Orissa and Bihar states. Ninety-four patients (70 per cent) were young people between 10 and 30 years of age. Both sexes were affected; there were 114 males and 20 females in this series. The preponderance of males in the present series was due to larger number of beds in the male wards of this hospital. They were generally engaged in agricultural work or as labourers and domestic servants and living on inadequate diet. Only a small proportion of them was economically well off.

Past history—Most of the patients were unable to give a connected and accurate account of their illness. There was history of fever from time to time in 122 cases; in the majority it was suggestive of malaria; while others on the suspicion of kala-azar received antimony injections but without effect. No blood examination appears to have been done, and the diagnosis was made on clinical grounds. In 12 cases there was history of haematemesis and melaena; eight of them came from non-malarious regions and were without any history of fever at all, while four said that each attack of haematemesis and/or melaena was preceded by fever and that the spleen got reduced temporarily after the haemorrhage. It is interesting to note that two of them had recurrence of

† Basanta Memorial Lecture (Calcutta University), December 1955.

haematemesis and melaena at regular intervals and they could even foretell an impending attack.

Duration of splenomegaly—Their chief complaint was progressive enlargement of the spleen with increasing weakness. The disease was extraordinarily chronic and insidious in onset. The duration as stated by the patients was 4-10 years in half of the patients and 2-3 years in the rest.

General health—The patients were generally ill-nourished, weak and asthenic and some had an emaciated appearance. Clinical manifestations of malnutrition such as angular stomatitis, glossitis, xerosis and/or night blindness were evident in a fair proportion of cases.

Fever—Ninety-six patients had irregular fever while in hospital. The fever was low or high intermittent in most cases and irregular or remittent in some. Some were afebrile while in the hospital. Two had tertian periodicity.

Spleen—Most of the patients had splenic enlargement varying from 5″ to 10½″ below the tip of the 9th left costal cartilage, in a few it was 3″ to 4″ only. Generally speaking, the longer the duration of the illness, the greater was the enlargement of the spleen. The enlarged spleen was firm but sometimes quite hard, smooth, usually painless and more or less mobile. In one case the spleen was considerably enlarged and had dropped to the pelvis and was mistaken for an abdominal tumour other than spleen. This was subsequently confirmed as spleen at operation. The enlargement was insidious and aggravated by febrile attacks and did not itself cause any symptoms other than the inconvenience caused by distension of the abdomen. In cases of gastro-intestinal bleeding it was temporarily reduced in size after the haemorrhagic episode.

Liver—The liver was also enlarged in almost all cases but to a much less extent than the spleen, the maximum enlargement being 3½″ below the costal margin. Enlargement of the left lobe was greater than that of the right in a large proportion of cases. The enlarged liver was soft or firm, usually smooth but in 4 cases it was rough and irregular. There was little or no tenderness. The liver possibly began to enlarge later than the spleen, but the exact duration could not be definitely made out. As noted later, *E. histolytica* cysts were found in 7 cases, but apparently had no connection with the hepatic enlargement.

Twenty patients were admitted with oedema of the legs. Twenty-four cases were admitted with ascites with or without oedema of the legs. Abdominal veins were prominent in 7 of them. Seventeen patients came with jaundice of varying degree. Jaundice had no definite relationship with ascites, in fact it developed independently of ascites.

Many of these patients had frequent bleeding from the gums and occasionally from the nose. Twelve patients, as already mentioned, gave history of haematemesis and/or melaena; six of them vomited blood again while in the hospital.

Other features—Abdominal discomfort and occasional pain and fullness after meals were not infrequently complained of apparently due to enlarged spleen. Bowels were normal or constipated.

INVESTIGATIONS

HAEMATOLOGICAL:

Anaemia—Definite anaemia was present in 93 (70 per cent) cases and was of moderate or severe grade depending on the size of the spleen. It was orthochromic and slightly macrocytic in type.

Leucopenia—The leucopenia that was frequently present along with the anaemia affected mainly the neutrophils and in the extreme cases the count was not more than 1,400/c.mm. In contrast to the finding in kala-azar some eosinophils were always present.

Pancytopenia—It was observed in some cases with marked diminution of both white and red blood cells and platelets. No abnormal blood cells were seen except an occasional normoblast in a few cases. Fragility of red cells increased in none. No abnormal haemoglobin was detected.

Parasites—Malaria parasites were found in two cases only (vivax and quartan). Microfilaria was present in the night blood of three patients.

Serological tests—Aldehyde test and complement fixation test for kala-azar were done as a routine measure in every case to exclude kala-azar. They were negative in all cases. The Wassermann reaction was positive in 19 cases.

Other tests—The total serum proteins were usually within normal limits, but the ratio of albumin and globulin was altered, and the ratio was reversed in 62 cases. The serum bilirubin was above 1 mg. per 100 c.c. in 22 cases. Prothrombin time was slightly raised in the majority of the cases. The thymol turbidity tests, done in 88 cases showed high value in 62 cases. These tests indicate that the liver of many of these patients was not functioning normally.

BONE MARROW:

It was studied in 28 cases with anaemia. The marrow was hypercellular in almost all cases. Erythropoiesis was normoblastic in all with presence of iron deficiency normoblasts in 50 per cent. Granulopoiesis was usually relatively depressed with regard to neutrophils but there was no change in so far as the eosinophils were concerned except in 4 cases in which it was increased.

There was no significant change in lymphopoiesis. Megakaryocytes were mostly adequate and active. No parasites or malarial pigment were found.

STOOLS :

E. histolytica cysts were found in 7 cases, giardia cysts in 15 cases, hookworm ova in 50 cases and roundworm ova in 10 cases.

URINE :

The urine was usually normal except for slight albumin and bile in a few and excess of urobilin in a fair number of cases. Three patients had sugar, and one had casts in the urine.

LIVER :

Biopsy—Materials obtained by needle biopsy or at operation were examined in 45 cases. The histological picture was normal in 14 cases, while the rest showed varied changes. Degenerative changes, focal or diffuse, of the hepatic parenchyma with infiltration of lymphocytes, fibroblasts, and occasional histiocytes and plasma cells were prominent features. Fatty change was observed in 7 cases. On reticulin stain, there was condensation of reticulin fibres at the degenerated areas. Nearly half of them showed evidence of early portal fibrosis with infiltration of mononuclear cells, and even extension of the young proliferating connective tissues into the lobules. These changes were more of the nature of replacement fibrosis. The liver sinusoids were found to contain clumps of round cells in many cases.

SPLEEN :

It is well known that one of the main functions of the spleen is to act as a reservoir of blood and store upto 20 per cent blood volume and it is the organ mainly involved in the destruction of effete corpuscles, blood platelets and circulating parasites. The enormous size of the spleen and the marked anaemia in many of our cases suggested a state of hypersplenism, i.e., an over-active state of the spleen in which one or more elements of blood are sequestrated and destroyed (Doan, 1939 ; Doan and Wright, 1946) or inhibited through an exaggerated inhibitory influence of splenic hormone on the bone marrow (Dameshek and Welch, 1953).

Adrenaline test (Doan, 1939, Doan and Wright, 1946)—A fair idea regarding the blood cells stored in the spleen could be obtained by injecting a small dose of adrenaline (1 in 1000) and noting the haematological response at short intervals after the injection. The adrenaline causes contraction of the spleen and expulsion of extra quota of blood into the circulation. The maximum haematological response occurred after 10-30 minutes and usually coincided with the maximum splenic contraction which varied from 1″ to 4″ excepting in cases with marked fibrosis of the spleen. There was a definite increase of the r.b.c. count and cell volume above the initial level, the former showing upto 78 per cent rise and the latter upto 47·6 per cent rise above the initial level. The total leucocytes showed a variable rise after adrenaline injection. The marked increase in erythrocytes coinciding with splenic contraction indicated their stagnation in large numbers in the spleen. The sequestration of blood cells by the spleen must lead ultimately to their depletion from the peripheral blood though at first partly compensated by the hyperplasia of bone morrow. Similar response to adrenaline may occur in normal subjects (Chatterjea *et al*, 1953) and also after splenectomy (Wright, 1952 ; Wintrobe, 1956), but erythrocyte response is never of the same extent as was seen in most of these patients. The value of adrenaline test as an indicator of hypersplenism could not however be estimated with certainty. The forceful contraction of the spleen after adrenaline injection is possible only when there is no significant fibrosis. Hence effective contraction after adrenaline suggests that the fibrotic process at this stage is minimal. Adrenaline injection apart from causing occasional throbbing and palpitation produced a serious complication in one patient who developed subarachnoid haemorrhage with convulsions and other symptoms probably due to rupture of a pre-existing berry aneurism. He eventually recovered. This is an unusual complication following adrenaline injection.

Further proof of the part played by the spleen in blood destruction or inhibition of blood formation was obtained by the fact that although there was improvement of the anaemia after administration of haematinics and good diet, this improvement was not usually maintained for long. This was also supported by observations made by examination of the spleen removed by operation. In 22 cases the spleen was removed and found considerably enlarged, weighing 2 to 6 pounds. The capsule was thickened with evidence of adhesions. The cut surface was reddish brown, firm with prominent trabeculae.

Histology—Normal histological appearance of the spleen was completely lost. The capsule was thickened, and the trabeculae were in most cases prominent. There was evidence of increase of fibrous tissue in the splenic pulp. The reticulin stain showed increase of reticulin fibres. The splenic sinuses were congested and dilated and this dilatation was variable in different cases. In the congested sinuses there were erythrocytes,

lymphocytes, a fair number of neutrophils, a few eosinophils, some monocytic histiocytes, as well as some multinucleated giant cells.

The red pulp of the spleen showed definite proliferation of pleomorphic cells of the reticulo-endothelial system with mono- and multi-nucleated giant cells. Erythrophagocytosis by the giant cells was seen in a fair number of cases. The malpighian follicles were found to be atrophied in all cases, and in one preparation it was almost absent. Areas of infarction were observed in two cases. In one case there was a large number of histiocytes containing haemosiderin granules round the zone of infarction. There was no evidence of malarial pigment even in the cases that had malarial attacks after the operation.

RADIOLOGICAL :

Splenoportography—Fifty-five patients were subjected to splenoportal venography with a view to examine the state of the splenic and portal veins in x-ray films taken after a percutaneous injection of a radio-opaque substance (30 per cent iodoxyl) into the spleen (Abeatici and Campi, 1951 ; Dreyer and Budtz-Olsen, 1952 ; Banerjee *et al*, 1953 ; Konar and Sengupta, 1953 ; Fuld and Irwin, 1954 ; Chaudhuri *et al*, 1954 ; Dreyer, 1954 ; and Harper, 1955).

A great concentration of the dye was seen in the spleen at the site of the injection and from there it could be traced to the venules in the organ and then through the splenic and portal veins to the liver. The common abnormalities observed were dilatation and tortuosity of splenoportal veins which appeared proportional to the enlargement of the spleen. Opacity of the collateral veins, e.g., short gastric, left gastric, pancreaticoduodenal and gastro-epiploic, was noticed in 13 cases, indicating passage of the dye against the usual direction of flow of blood, due to portal obstruction.

On the other hand, part of the splenic vein appeared narrowed in two cases with non-visualisation of the portal vein in one due to extra-hepatic obstruction while in another case (the test was done on two occasions) none of the veins was at all visualised, which was attributed to too much dilution of the dye in the greatly dilated vessels. One case showed anomalous variation of the portal vein, another showed stump of the superior mesenteric vein and biliary calculi in addition. The maximum diameter of the splenic vein in the well-visualised cases varied from 6 to 30 mm. and that of the portal vein from 11 to 35 mm. (as measured on the x-ray film). For comparison, the radiography was done in two malaria cases with slight enlargement of the spleen ; the size of the veins was only about 10 mm. which was taken more or less as the normal figure from radiological point of view. Thus, from the radiological point of view, the splenic and portal veins were in several cases dilated 2 or 3 times the size of the corresponding veins in normal persons.

One noticeable feature was that while the portal radicles were in the majority of cases more or less visualised in the right lobe of the liver, only in two cases were they visible in the left lobe, and that too very poorly. It appears that the opaque dye was hardly distributed in the left lobe as compared to the right. Closer observations showed that if the tributaries in the right lobe were not visualised more collateral veins were seen. The portal radicles were visualised inside the right lobe of the liver in 48 cases.

In 7 cases in which they were not visualised, the reason was attributed to poor concentration of the dye or technical difficulties, or extra-hepatic obstruction, but in two there was an abrupt 'ending' of the portal veins in the liver suggesting intra-hepatic obstruction.

Barium meal—Varicosities of the submucous plexus of veins in the lower oesophagus were demonstrated in 11 patients, ten of whom had symptoms suggestive of portal hypertension, viz., haematemesis and/or melaena with enlargement of the spleen. None showed any evidence of peptic ulcer. The remaining patient has had no haemorrhage, while two others had no varix radiologically though they had haemorrhage. The stomach in all cases showed a dextrodeviation, being pushed by the enlarged spleen. Varicose condition in the stomach was observed in one, besides the oesophageal varix.

Pyelography—Intravenous pyelography done in eight cases showed a dropping of the left kidney, enlargement in size in the longitudinal direction and poor concentration by the calyces and also clubbing in addition. Further check up after splenectomy done in three cases showed an ascent of the kidney and restoration of function.

Biliary calculi were seen in four cases incidentally. None of them had any evidence of blood dyscrasia like Cooley's anaemia, hereditary spherocytosis, or of any other haemoglobinopathy.

TREATMENT

A. MEDICAL :

Nearly half of the patients improved in general health with diet alone. Haematinics e.g., liver extract (crude) 3 c.c. intramuscularly daily for six consecutive days and later on twice or thrice a a week for a variable period and iron in the form of ferrous sulphate 15-18 gr. a day for 3-4 weeks,

were given to 75 patients with moderate or marked anaemia. There was improvement of anaemia in most of them after a single course, but a few cases failed to maintain the improvement and required a second course. The response to liver extract and iron suggests that deficiency of iron and anti-megaloblastic factors contributed partly to the causation of anaemia. Haemorrhages and frequently associated hookworm infection appear to be the main cause of iron deficiency. In 34 cases the fever was controlled with antimalarials and the spleen diminished in size, to a variable extent, but the majority of cases with the huge spleen, did not improve. Ascoli's treatment consisting in the daily intravenous administration of small doses of adrenaline (1 in 1000 solution) e.g., 0·01 c.c. diluted with normal saline gradually increased, making a total of 20 to 25 injections, along with a mixture containing iron, quinine, arsenic and magnesium sulphate was tried in some cases without any remarkable effect. Cortisone was also tried in six cases empirically in daily doses of 50 to 100 mg. In only two cases there was moderate reduction in the size of the spleen, but in others the results were not at all satisfactory.

RESULTS :

As the patients came mostly from the distant villages of Bengal, Bihar and Orissa regular follow up was not possible. Twenty of them could however be periodically followed up in the out-patients' department or by re-admission. The results are presented under the following heads :

General health—Though nearly half of the patients improved in general health and gained in weight with diet alone, many of them could not maintain it owing to poor economic conditions. On re-admission to the hospital and with proper diet, marked re-improvement was noticed. Two patients did not show any improvement from the beginning, inspite of proper diet and other treatments, as they were in the late stage with clinical evidence of hepatic cirrhosis.

Temperature—In some cases temperature subsided with hospital treatment but recurred at home after variable intervals.

Blood picture—The haemoglobin and red blood cell count usually improved after treatment, but the improvement was not always sustained, and on follow up studies, was found to deteriorate again in many of them, apparently due to hypersplenism.

Spleen—Moderately enlarged spleen in the earlier stage of the disease was reduced in size with antimalarials. On follow-up studies in some cases it was found to have enlarged again along with attacks of fever. In the later stage some cases responded well surprisingly to suppressive antimalarial therapy for months but when marked fibrosis took place, it did not respond at all.

Liver—Effect on the size of the liver was variable and could not be properly assessed. Follow-up liver biopsy study was possible only in one case. First biopsy done three years before did not show any remarkable change. After three years he was readmitted with ascites and jaundice and finally died of hepatic failure. Biopsy done at this time showed marked fibrosis of the liver.

Deaths—Three cases died in two years ; two in the hospital and one at home.

B. SURGICAL :

As the gain in weight was not steady, and the initial low values of red blood cells, white cells and haemoglobin showed little or no tendency to sustained improvement in spite of diet and haematinics, removal of the spleen was considered with a view to remove the factor of hypersplenism. (Larrabee, 1934 ; Robson, 1949 ; Scott, 1949 ; Editorial—*Brit. M. J.*, 1949 ; Maingot, 1952 ; and Whitby, 1952). Splenectomy was done in twenty-two cases with the addition of lienorenal anastomosis in two and portocaval in one. Portal pressure taken during operation in 10 cases at the gastro-epiploic vein was found high in two cases who gave history of haematemesis. In others it was found normal or only slightly increased. Liver appeared cirrhotic in four cases.

RESULTS :

Four patients died during operation and one 3 days after from severe haematemesis. One patient died one year after from cirrhosis of the liver with ascites, oedema of the legs, jaundice and haematemesis.

Of the 17 patients that survived after operation, 12 have been followed up for a period of 1½ to 2 years and the remaining 5 for six months to one year. Their progress is dealt with under the following heads :

General health—Fourteen patients gained in weight by 2-16½ lb. with improvement of general condition including the one who died a year after and 3 others lost weight by 3-7 lb. after operation, but after one year gradual deterioration of health with loss of weight was evidenced in nine of them due to one or other complication mentioned below.

Temperature—Six patients had malarial attacks due to *P. vivax* infection within a period of 14 days to 3 months after splenectomy. The number of attacks varied from 1 to 4. These patients had malaria while still in the hospital and re-infection was most unlikely. All these patients

during splenectomy received blood transfusions. The question might be raised that the infection had been transmitted through blood transfusion. The occurrence of malaria even about 3 months after the operation and a series of relapses in one patient suggest that malarial infection in all these patients was not probably due to blood transfusion. One of them who had 4 attacks of malarial fever, developed cirrhosis of liver and finally died of hepatic coma. Four patients have been doing well, including the three who had shunt operation. Of the remaining 7 patients, two have developed ascites apparently due to cirrhosis of liver or tuberculous peritonitis complicated with right sided pleural effusion in one. The other five patients are suffering from irregular temperature as before operation (? hepatic fever).

Haematemesis and melaena—Three patients had haematemesis and melaena before operation and two of them had lienorenal anastomosis in addition to splenectomy. One of them who complained of bleeding episode every 5 months, had severe haematemesis on the 3rd day of operation near about the completion of 5 months and it is strange to note that again after 5 months he had another attack of melaena though no haematemesis. Barium meal examination done about a week before the bleeding showed presence of oesophageal varix. Two other patients who were admitted with history of fever simulating malaria, had haematemesis 1 and 1½ years after operation. The former died of hepatic coma and the other is clinically well.

Jaundice—Five patients developed jaundice within three to twelve months after operation. Two of them had it along with malarial paroxysms.

Blood picture—The blood picture improved to a great extent within one month after operation and this improvement is more or less being maintained in all the survivors. The increase in leucocytic level was associated with moderate or high eosinophilia up to a maximum of 53 per cent (10·070 per c.mm.) and this was temporarily lowered by any febrile attack including malaria probably due to increased secretion of cortical hormones. The eosinophilia was, however, found reduced towards the end of the year.

Bone marrow—In six cases the bone marrow was studied both before and after operation. Hypercellular bone marrow after operation became nearly normocellular, the normoblastic hyperplasia having been decreased. In 4 cases the relatively depressed granulopoiesis became normal while eosinophilic cells increased.

Liver—Against the improvement that took place in the clinical condition in many cases and blood picture in all after operation, its effects on the liver are of interest. As a rule liver in all cases increased by ½″—1″ after operation and was frequently tender, but gradually came down and in three cases it became very much reduced in size and developed into clinical picture of cirrhosis with ascites and jaundice. Biopsy done in 6 patients within a variable period of 3—5 months after operation showed the same degenerative changes of hepatic parenchyma as seen before it and in addition fatty changes in two cases which were not seen previously. Other findings were moderate condensation of reticulin fibres at the degenerated areas as seen before operation and in general larger accumulation of lymphocytes in the sinusoids with hyperplasia of Kupffer cells. It was not possible to do the biopsy in the case in which the shunt operation was done.

Studies on the Role of Antimalarials on the Incidence of Splenomegaly in a Rural Area

No drug is yet available which will prevent malarial infection taking place when a susceptible person is bitten by a mosquito, but the existing drugs can prevent the infection from developing into the clinically recognizable disease. Experiences in the last War showed that with regular administration of mepacrine it was possible to live in a hyperendemic area without getting overt attacks of malaria. Since then drug prophylaxis has been given trials in civilian practice with excellent results. We have carried out mass prophylaxis in malarious villages for five to six consecutive years during the transmission season with administration of proguanil, chloroquine, amodiaquine, and pyrimethamine at regular intervals, without any anti-mosquito measures, and compared the results with similar groups receiving no treatment at all or at best occasional doses of quinine. All the four drugs decidedly reduced the incidence of malaria and improved the health of the people, proving unquestionably effective as suppressive drugs. In the last 2 years DDT has been used in most of these villages and chemoprophylaxis was discontinued.

Of the several hundred cases of splenomegaly in the above rural area, we have records of 145 persons with splenic enlargement from 5 to 9 inches with variable enlargement of the liver as well. To find out whether antimalarial measures had any effect on them, an attempt was made to follow them up. Seven had died from unknown causes while a number of them had migrated elsewhere. Altogether it has been possible recently to examine 71 persons. When first seen about 7 years ago, these cases were mostly malnourished

and anaemic, but now they were found to have improved in general health except two who were ill and profoundly anaemic along with splenomegaly. The liver was enlarged in only 50 per cent cases but definitely smaller in size than before. The present size of the spleen was compared with the initial measurement and it was seen that one-third of the patients had ceased to have palpable enlargement of the spleen at all and the enlargement was reduced to 1 to 2 inches in 90 per cent of the remaining cases. Two patients had about the same enlargement as before, viz., 6 inches and only in one case it was increased from 5 to 7 inches. It was concluded that antimalarial measures had definitely reduced the size of the spleen by preventing recurrent attacks of malaria, indicating that malaria is a major factor in the production of chronic splenomegaly, at least in the vast majority of cases (Chaudhuri *et al*, 1956).

Discussion

From the data presented, it appears that the condition is not one disease entity but a symptom complex representing a group of pathological conditions and that the patients may be broadly divided into three groups.

The twelve cases with gastro-intestinal haemorrhage form a separate group by themselves (Ravena, 1940 ; Moschowitz, 1917 ; Ratnoff *et al*, 1950 ; Child, 1954 ; Chakravarty *et al*, 1954a). As stated before, they had no history of malaria or recurrent fevers except short attacks at the time of bleeding. There was no evidence of peptic ulceration and there was no question of malnutrition as they mostly belonged to a higher economic status. But they had varied signs of portal hypertension, the most characteristic feature being recurrent haemorrhage in the form of haematemesis and/or melaena. The first symptom one patient had was an attack of severe haematemesis. The anaemia was of severe or moderate grade. In three cases in which liver biopsies were performed, the specimens showed fatty changes with cirrhosis. Splenic and portal veins were very much dilated with development of collateral venous channels linking the portal and systemic systems. All but one had oesophageal varices. The spleen was variably enlarged upto 6 inches presumably as a result of prolonged portal obstruction, either intra- or extra-hepatic as revealed by x-ray examination. In one case the obstruction was obviously due to narrowing of the splenic and portal veins (? thrombosis) and another showed an anomalous variation (cavernomatous transformation) of the portal vein, probably a congenital abnormality. In the others the obstruction appeared to be intrahepatic probably due to cirrhosis as either the portal veins ended abruptly in the hepatic fissure or the portal radicles were poorly or not at all visualised inside the liver. Medical treatment had no effect in these cases beyond temporarily alleviating the anaemic condition.

But by far the majority of the patients belonged to a different category in which malaria and malnutrition seemed to have played an important role. They frequently suffered from malaria and were living on a very deficient diet in malarious districts. The fact that malaria parasites were found in 2 cases only does not invalidate the hypothesis, for in chronic malaria, owing to a certain degree of immunity, parasites are often absent in the peripheral blood except during an acute exacerbation. It is also noteworthy that vivax parasites appeared in the blood of six out of fourteen patients after splenectomy, though previously none could be found. This is quite possible, as in *P. vivax* and *P. malariae* infections exo-erythrocytic schizogony may be maintained for years. The possibility of fresh infections could be ruled out in these cases. With recurrent attacks the spleen enlarges and it is now known that malaria may affect the liver as well, and that the hepatic damage, though usually temporary, may be permanent. Evidence has also accumulated in recent years that some form of hepatic fibrosis in man may be caused by diets especially poor in protein. That malnutrition played some part in the pathogenesis of the condition is also evident from the fact that nearly half the patients improved in their general health on normal hospital diet alone. In a study of West African children with enlargement of the liver and the spleen, Walters and Waterlow (1954) while holding that neither malnutrition nor malaria alone could be regarded as a sufficient cause for the hepatic lesions, suggested that the combination of both acting simultaneously could account for the cirrhosis. They put forward the hypothesis that malaria causes a localised, inflammatory reaction in the portal tracts. If at the same time there is a nutritional injury to the liver, the fibrosis evoked in the first place by malaria tends to spread into the parenchyma. Normally with an improving nutritional state the lesion heals, leaving nothing but residual scars, but in a few children, as a result of continuing or periodical malnutrition healing does not occur, the fibrosis progresses and becomes diffuse. The same may probably be applied to our cases, but there is of course the possibility of other factors, e.g., virus infection such as infective hepatitis in causing the liver damage, but it seems that in these patients malaria and malnutrition were much more predo-

minant and that a causal relationship to the liver lesions can be justifiably assumed.

These cases of malarial and malnutritional origin could be subdivided into two groups according to the stage of the disease, though there was no sharp boundary between them. The first group which consisted of 34 cases had splenic enlargement of varying degree often with anaemia. The liver was slightly enlarged in all, but only three out of 12 patients showed in the biopsy specimens some abnormalities, viz., degenerative changes in the parenchymatous cells. They had no bleeding nor did they show any anomaly in the portal and splenic veins. The most distinctive feature of this group was the favourable response to antimalarial treatment which controlled the fever in many with diminution in the size of the spleen in many and of the liver in a few. Their anaemia, too, was cured or relieved and did not tend to relapse. These were simple cases of chronic malaria with no evidence of hypersplenism. This is also borne out by our observation of similar cases in rural areas where we had carried out chemoprophylactic treatment against malaria for over 5 years. The incidence of such village splenomegaly cases has now been insignificant.

The second group which included the remaining 88 cases seemed to be an advanced stage of the previous group, rather a sequel with more or less marked signs of hypersplenism. The spleen was considerably enlarged with varying degrees of anaemia, the lowest level of blood counts being haemoglobin 4·3 g. per cent, red cells 1·1 million and white cells 1,400 per c.mm. The liver was firm or rough and irregular in several cases and the degenerative changes were far more common and extensive than in the first group. Vascular changes like those in portal hypertension were uncommon in this group except in advanced stages. One patient had thrombosis of the splenic vein, while the collateral vessels were visible in four. None had haematemesis in the past but two developed it after splenectomy, of which one died. Antimalarial treatment had practically no effect in this group, while haematinics caused no more than temporary improvement of the anaemia. These are cases which conform to the normal description of the so-called 'Bengal Splenomegaly'.

The pathogenesis of this group of splenomegaly is probably as follows. In certain individuals recurrent attacks of malaria, in the absence of antimalarial therapy and proper diet, lead to enlargement of the spleen and the liver. It is possible that in some cases malarial infection remains latent indefinitely and contributes to splenomegaly. Gharpure in his lecture at the Indian Association of Pathologists held in December 1955 also suggested the role of such latent infection in the causation of splenomegaly. The splenic enlargement is evidence of imperfect host-parasite adjustment. In the ill-nourished poor villager, immunity is low and the parasite infection, if he survives, is kept down by the hypertrophied reticulo-endothelial tissues, so that splenic enlargement and anaemia characterise the clinical picture (Napier, 1943). The defence mechanism of the body works to the utmost leading to hyperplasia of the reticulo-endothelial cells, so that the spleen being the largest of this tissue undergoes considerable enlargement. There is concomitant development of the fibrous tissue as a supportive framework. The latent malarial infection acts as a stimulant to reticulo-endothelial hyperplasia, while haemosiderin pigment occasionally observed resulting from red blood cell destruction may stimulate fibrotic changes. The contractile power of the spleen is thereby diminished especially in the advanced stage and blood is held back in the dilated sinuses, thus exposing the blood cells to greater phagocytosis than is the case normally. Hypersplenic anaemia or pancytopenia is apt to occur as evidenced by the peripheral blood picture, hypercellular marrow, histology of the spleen and ultimate refractoriness of anaemia (Doan, 1939 ; Wright, 1952 ; Dameshek and Welch, 1953). A further proof of hypersplenism was afforded by the fact that splenectomy was followed by prompt restoration of the blood picture to a normal state which continued even when other complications developed later (Singer, Miller and Dameshek, 1941 ; McPherson and Innes, 1953 ; Chaudhuri *et al*, 1956). The bone marrow is apt to be hypercellular in these cases to form more blood cells. It tends to be normocellular after splenectomy. The liver shows evidence of parenchymatous degeneration with accumulation of round cells (Mukherji *et al*, 1954). This degeneration when progressive is associated with condensation of the reticulin fibres which may later be replaced by fibrous tissue (Saha *et al*, 1955). These changes in the liver and spleen may in course of time lead to portal obstruction and hypertension.

I must confess however that in this subgroup of cases with enlarged spleen, hypersplenism, frequent liver changes and occasional signs of portal hypertension, the proofs of their malarial origin are not unequivocal, and further investigation may show that some of them are of idiopathic origin or due to some other causes, such as virus infection like infective hepatitis, brucellosis and schistosomiasis (not prevalent here).

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It was in seventeen such cases that splenectomy was performed, but the results were on the whole not encouraging. They were certainly not free from operative risks, but at the same time most of them were young people between 15 and 30 years of age, and the response to medical treatment was fairly good, though not with sustained effect. It appears that damage to the liver not only helps to predispose to the condition and perpetuate it but also determines the prognosis. When the spleen is removed, it frequently enlarges and undergoes retrograde changes owing to some unknown influence and if it fails to compensate, the end is hastened. There may be something in McMichael's suggestion that the spleen might stand in relation to the liver as lymph glands do to other structures, the product of inflammation in the liver being assumed to pass by the blood stream to the spleen and cause its enlargement. According to this view the enlarged spleen seems to perform some useful purpose and when it is removed, the body is deprived of a means of disposing the toxic product derived from the liver.

Some remarks would seem to be called for to explain the enlargement of the left lobe of the liver that was found in a good proportion of our cases. Although for technical reasons no biopsy material was taken from this part of the liver, the enlargement was apparently due to a cirrhotic condition with cell proliferation and fibrosis which was of sufficient extent to obstruct the flow of radio-opaque material into the portal radicles inside the lobe. To understand this, we may recall the possible physiological independence of the two lobes of the liver by which the blood from the small intestine passes mainly up the right branch of the portal vein to the right lobe, while that from the spleen proceeds by the left branch to the left lobe. Digestion occurs in the small intestine and its products containing the nutrient amino-acids are carried out in the blood of the superior mesenteric vein which supplies the right lobe of the liver. When the diet is adequate the amount of the essential nutrient in the portal blood is high and sufficient escapes to reach the arterial blood and so nourish the left lobe. Himsworth and Glynn (1944) have demonstrated that when rats are given a grossly deficient diet, massive necrosis ultimately develops in the whole liver. If, however, the diet is partly deficient, the necrosis develops only in part of the liver ; and that part is invariably the left lobe, because most of the nutrient is removed by the right lobe, and inadequate amounts get through the left with consequent development of necrosis. Because these diets are not grossly abnormal, animals receiving them survive a considerable time during which hyperplasia occurs. The correlation between cirrhosis and malnutrition in human beings is not so close as would be expected from observations in laboratory animals, but there is no doubt that malnutrition was a major factor in the lives of these patients.

In portal hypertension unrelated to malaria as represented by the twelve cases of gastro-intestinal haemorrhage it is still uncertain which of the two organs, the liver and the spleen, is primarily affected. McNee (1932) considered that a high portal blood pressure and changes in the spleen preceded the onset of hepatic cirrhosis. The view of McMichael (1934 & 1935) was that the disease was primarily a hepatic or portal disorder and that the splenomegaly was due to venous congestion associated with cellular proliferation. In any case the condition is usually associated with some obstruction or anomaly in the portal circulation, which may be intra-hepatic or extra-hepatic (Learmonth, 1951 ; Walker, 1952) but in some cases the site of block cannot be demonstrated, even on the operation table (Learmonth, 1951a). Portal hypertension may be produced in animals by slow occlusion of the portal vein, and in this connection I would like to mention an interesting instance of splenomegaly in a cat observed post-mortem, associated with a congenital anomaly of the inferior vena cava and portal vein. The length of the vena cava that normally lies behind the liver was replaced by a fibrous cord and a large trunk arising from the inferior vena cava where it became a fibrous cord opened into the portal vein. So the entire venous drainage, portal and systemic, from the lower part of the body was carried to the liver, leading to congestive splenomegaly. The modern treatment of portal hypertension aims at lowering the high pressure by making venous anastomosis between the portal and systemic circulation in order to by-pass the site of obstruction (Blakemore, 1947, 1951 ; Learmonth and Macpherson 1948 ; Learmonth, 1949 ; Hunt, 1952). Direct connection is made either between the portal vein and inferior vena cava or between the splenic and renal veins, depending on the situation of the block. The former route is preferred unless the portal vein is blocked by a thrombus. Some consider that splenectomy should be a routine part of the operation as thereby the hypersplenism is promptly relieved and in addition a considerable amount of blood is prevented from entering the portal system. However, there are two factors in favour of leaving the spleen in its place ; the organ shrinks in size when an adequate shunt is made, and secondly, the large collateral vessels between the spleen and the lateral body wall are preserved.

But I do not propose to enter into further details of this shunt operation, as it is a procedure of high magnitude and is now reserved particularly for cases with recurrent haemorrhage. Even the haemorrhage has occurred after this operation as in one of our cases.

Conclusion

This investigation is concerned with certain splenomegalies of apparently obscure origin and based on 134 cases that came to the hospital from widely scattered areas. About 9 per cent of the patients suffered from recurrent haemorrhages from the gastro-intestinal tract and had other signs of portal hypertension. They were mostly town-dwellers and had hardly any history of malaria. But the majority of the patients were of different category. They came from malarious places in rural areas, had suffered from malaria for a long time and were mostly getting irregular fever when admitted to the hospital, though no malaria parasite was found in the blood except in two. They were of low socio-economic status and many of them had obvious signs of malnutrition. In addition to the splenic enlargement, most of them had enlargement of the liver as well. Nearly 30 per cent of this group responded to anti-malarial treatment, the fever subsiding and the spleen being reduced in size. These cases were obviously due to chronic malaria. This view is also supported by our field experience in a hyper-endemic rural area where antimalarial measures (chemoprophylaxis) had been carried out for some years, as a result of which large spleens receded completely or considerably reduced in size, though for obvious reasons the response was a slow process. The remaining 70 per cent of the group also started with attacks of malaria and in course of time passed into a state of hyper-splenism with massive spleen, moderate or severe anaemia, frequent fibrotic changes in the liver and marked dilatation and tortuosity of the splenic and portal veins and in some cases with signs of portal hypertension. These cases may be regarded as an advanced stage of the previous sub-group, but their response to antimalarial treatment was practically nil. It must not be thought that these cases occur as frequently as the hospital figures indicate. On the other hand they are much rare. A recent follow-up of persons with marked splenic enlargement in the rural area just mentioned showed three cases with spleens more enlarged than a few years ago and two of them in very anaemic condition. Though no detailed investigation was possible, these cases probably belong to the type discussed. In addition to these three cases there were a few deaths among persons with similarly enlarged spleen, but the causes of the deaths could not be traced. It is suggested that malaria and dietary deficiency are two major factors in the production of majority of cases of chronic splenomegaly and hepatitis as seen in this part of the country. It usually subsides under favourable circumstances or remains in minor degrees of no functional importance. But in some cases the condition is progressive when hypersplenism and cirrhosis of the liver dominate the picture and may reach a stage when resolution does not occur. It is the condition of the liver which determines the ultimate prognosis of these cases.

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GUINEA-PIG AND HUMAN COMPLEMENT FOLLOWING LIVER INJURY

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In a previous communication (Rangam *et al*, 1956), we had observed that guinea-pigs, maintained on a diet deprived of methionine and cystine, showed a fall in their serum complement values. It was suggested that serum complement activity was probably related to the integrity of the liver.

The present study aims at ascertaining serum complement values in (a) guinea-pigs subjected to hepatic injury by carbon tetrachloride and (b) human beings suffering from different hepatic diseases.

MATERIAL AND METHODS

Eighteen guinea-pigs, including two controls, have been employed in this experiment. The 16 test animals received subcutaneous injections of carbon tetrachloride, in doses of 0·5 c.c. per Kg. body weight, on alternate days. Hepatic injury was assessed by representative liver function tests as : (i) protein estimation, (ii) cephaline cholesterol flocculation test (C.C.F.T.), (iii) icteric index, (iv) van den Bergh reaction and (v) alkaline phosphatase estimation. All the livers were studied histologically, post mortem. Complement estimation and liver function tests were done simultaneously, at weekly intervals. All the animals were maintained on the stock laboratory diet. The experiment was concluded after 5 weeks by which time all the experimental animals died.

TABLE 1—SHOWING AVERAGE VALUES IN THE EXPERIMENTAL AND CONTROL ANIMALS AT WEEKLY INTERVALS

	VALUES											
	Initial		1 week		2 weeks		3 weeks		4 weeks		5 weeks	
	Test	Control	Test	Control	Test	Control	Test	Control	Test	Control	Test	Control
Complement	73·1	95	39·4	85	20·6	80	11·7	95	6·7	95	4·0	85
Protein	6·21	6·15	5·86	6·0	5·33	6·38	4·8	7·0	4·33	6·7	4·1	6·5
Icteric index	4	3	26·6	3	43·3	3	30	3	30	3	50	5
van den Bergh	−ve in 100%	−ve in 100%	+ve in 70%	−ve in 100%	+ve in 100%	−ve in 100%	+ve in 100%	−ve in 100%	+ve in 100%	−ve in 100%	+ve in 100%	−ve in 100%
Alkaline phosphatase ...	2·02	2·5	2·27	2·3	2·95	2·4	3·6	2·55	4·1	2·5	*	2·5
C.C.F.T.	−ve	−ve	+ve	−ve	+ve	−ve	+ve	−ve	+ve	−ve	+ve	−ve

Complement and icteric index in units; protein in g.%; and alkaline phosphatase in Bodansky units, C.C.F.T.—Cephaline cholesterol flocculation test.
* not done, serum being insufficient.

TABLE 2—SHOWING AVERAGE VALUES IN PATIENTS SUFFERING FROM LIVER DISEASES AND HEALTHY CONTROLS

Diseases	Complement units	Proteins g.%	Icteric index units	van den Bergh	Alk. phos. Bod. units	C.C.F.T.
Hepatic cirrhosis ...	5·77	4·96	13	+ve in 48·8%	3·0	+ve
Infective hepatitis ...	6·0	5·82	112	+ve in 100%	2·96	+ve
Amoebic hepatitis ...	7·06	5·31	6	+ve in 16%	2·55	+ve
Controls	13·22	6·74	3·6	−ve in 100%	2·11	−ve

Studies in human beings consisted of estimation of serum complement values in 64 normal healthy individuals (42 males and 22 females) and 65 patients (50 males and 15 females) in our hospital, with recognisable hepatic disease as hepatic cirrhosis (27 cases), infective hepatitis (21 cases) and amoebic hepatitis (17 cases). The liver damage was assessed in both the groups by the same tests as were employed for the animals.

The serum complement titre was estimated in terms of its haemolytic activity against a standard 3 per cent suspension of sensitised sheep red cells. The complement value was designated as the reciprocal of the titre.

The cephaline cholesterol flocculation test, van den Bergh reaction, icteric index and protein estimation were done by techniques described by Stitt *et al* (1948). The serum alkaline phosphatase was determined by Bodansky's method (1933).

RESULTS

The results obtained are recorded in Tables 1 and 2.

The histological features observed in the livers were massive liver cell necrosis, centrilobular necrosis and advanced fatty change, suggesting a damage of considerable severity.

From the figures in Table 1 which are found statistically significant, it is apparent that guinea-pigs receiving carbon tetrachloride suffer progressive functional liver injury. A progressive deterioration in their complement values is also observed. Further, there appears to be a correlation between the severity of hepatic injury and the fall in complement values.

Complement values in persons suffering from liver diseases, are low in comparison to those of healthy persons. The values observed in hepatic cirrhosis are lower than in more acute diseases like infective hepatitis and amoebic hepatitis.

DISCUSSION

Apart from the wide variations in complement activity in healthy human beings and animals, low complement values have been frequently found in deficiency states and in diseases of the liver. Rangam *et al* (1956) observed it in guinea-pigs deprived of cystine and methionine. Goldner (1929) quoted by Lange *et al* (1951) observed a

marked depression in complement activity in case of infective hepatitis. Similar depression is noted in the present study in cases of viral and amoebic hepatites and hepatic cirrhosis. This would, perhaps, explain the frequency of intercurrent infections in hepatic diseases, noted in clinical practice.

Diminished production, increased utilisation and destruction have been mentioned as the possible causes for the low complement values observed in the above states. The evidence obtained from the present study would favour the first view.

Hepatic injury in guinea-pigs, caused by the administration of carbon tetrachloride is attended with a progressive deterioration in the hepatic function and also a progressive fall in the serum complement values, the latter being roughly proportional to the extent of the former. It would also appear that nearly all the values indicating liver function, are altered to a greater extent during the first 2 weeks than in any other period.

Blood protein levels which reflect the synthetic function of the liver, register the maximal drop during the first fortnight of the experiment. It is significant that during this period the maximal fall occurs in the complement values also, suggesting a close association between complement and the ability of the liver to synthesise protein.

Seeking an explanation for this association, the complement being itself protein in nature, it is tempting to attribute the lowering of the complement values to a quantitative reduction of protein available for the production of the complement. However, considering the very small quantities of proteins needed for complement, in comparison to the other needs of the body, this explanation does not appear satisfactory.

On the other hand, it appears more likely that the production of complement is one of the functions of the liver, much the same way as the synthesis of proteins and that in damaged states, the former is affected in the same way as the latter. In other words, then, the site of production of complement, appears to be the liver. This is in keeping with the suggestion of Ehrlich and Morgenroth (1900) quoted by Arkwright *et al* (1931) and Dick (1931) that the liver may be concerned in the production of complement.

Summary

1. Complement values in 18 guinea-pigs (including two controls) receiving carbon tetrachloride and 129 human beings, i.e., 64 controls and 65 patients suffering from various hepatic diseases, have been estimated.

2. Liver damage has been assessed by various liver function tests in patients and animals.

3. Patients with hepatic diseases show lower complement values in comparison to the normal individuals.

4. Progressive liver injury and progressive fall in complement values are noted in guinea-pigs.

5. The fall in complement values corresponds to the inability of the liver to synthesise proteins.

6. The liver is suggested as the site of production of complement.

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CASE NOTES

COARCTATION OF THE AORTA—ADULT TYPE

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Tiruchy

Introduction

Coarctation of the aorta is a malformation due to an anomaly in the development of the aorta. The essential feature is a localised constriction of the aorta (*coarctare* to press together) in the region where it is joined by the ductus arteriosus. Two forms are recognised; (1) infantile and (2) adult type depending on the relation of the constriction to the ductus.

Case Report

Mr. A. B., aged 35 years, male, a worker in the Central Railway Workshop, was first seen on 3-8-55 for complaint of pain over the left infraclavicular region and occasional spitting of blood-stained sputum.

He had slight spitting of blood in 1951 for which he was treated and he felt better in a few days. X-ray of the chest taken at that time revealed nothing abnormal. The family and personal histories are noncontributory. On examination the patient was well-nourished and of dusky complexion. There was no clubbing of the fingers or cyanosis. The apex beat was in the left 6th intercostal space on the midclavicular line. Heart boundaries were normal. Heart sounds were heard normally in all the areas. The radial pulse was bounding in character and the femoral pulse was very feeble.

A blowing systolic murmur was heard in the interscapular space. There was no thrill over the area.

There were no other signs of importance.

Investigations—The blood pressure of the upper and lower extremities were as follows: Right arm—S/D—170/100, left arm—S/D—150/100, lower extremities S/D—60/40. The femoral pulse could not be felt. Kahn test—Negative.

X-ray of the lateral view of the chest showed scalloping of the lower border of the ribs. Aneurysmal dilatation of the descending aorta was visualised at the level of the 6th and 7th thoracic vertebrae. The barium swallow on screening of the chest showed that the barium flowed easily.

The electrocardiogram showed left axis deviation only.

Treatment—As the party did not agree to surgical resection he was advised not to strain himself at work and live within the limits of his cardiac reserve and sent back to work.

Summary

A case of coarctation of the aorta of adult type is presented as it manifested all typical clinical symptoms and signs and radiological evidences.

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A CASE OF DERMAL LEISHMANOID IN MADRAS

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Only records of two cases of dermal leishmanoid in Madras in 1930 were found (Theodore, 1930; Seshadrinathan, 1930). It is quite possible that there have been cases of dermal leishmanoid in Madras but either they have escaped attention or they have not been reported in medical journals.

Case Report

The patient Mr. E. M. S. aged 45, a businessman complained of fever, which according to him was almost continuous for about 6 months. During that period he had seen several doctors. The laboratory findings at that time showed the aldehyde and urea stibamine tests to be positive. The total WBC was 6200/c.mm., polymorphs 47 per cent, lymphocytes 37 per cent and monocytes 16 per cent. He had a course of antimony injection and got well. For the last 9 or 10 months he had been noticing hypopigmentation in certain areas of the face (cheek, malar regions and to some extent on the forehead). He also noticed erythema of the face and finally noticed appearance of some nodules over both the ears. He was much upset as somebody suggested that he was suffering from leprosy.

Laboratory findings—Aldehyde and Chopra tests were negative. Scrapings from the nodules on the ears were stained and were found to contain L.D. bodies.

Treatment—The patient had a course of sodium antimony gluconate injections and his condition improved.

Summary

A case of dermal leishmanoid in Madras is reported. Nodules were present in the ears. There was hypopigmentation in certain areas of the face. The condition rsembled that of lepromatous leprosy. A previous history of kala-azar was given. Skin clippings from nodules in ears were positive for L.D. bodies. Condition improved after treatment.

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PRIMARY PULMONARY HYPERTENSION

The association of pulmonary hypertension with certain pulmonary and cardiac diseases has long been known, and the sequence of events in the genesis of hypertension in such cases has more or less been satisfactorily explained. Much remains, however, to be discovered about the sequence of events in the production of primary pulmonary hypertension.

Whatever the cause and however caused, with the more extensive use of cardiac catheterisation and roentgenological methods, the existence of primary pulmonary hypertension as a clinical entity has been firmly established. Although it is a distinctly rare condition, it is perhaps not so rare as it was once thought to be, and increasing number of cases have been reported during the last two decades. Young people and females[1] are predominantly affected, and it has even been described in infants[2]. The salient features of this disorder are: a sense of tiredness, dyspnoea, syncope and even angina of effort, a small pulse and cold extremities, a giant 'a' wave in the jugular venous pulse, right ventricular hypertrophy, narrow duplication of the second heart sound with accentuation of the pulmonary element and sometimes systolic and diastolic murmurs. Cardioscopy shows prominent conus pulmonalis, enlargement of the right auricle and ventricle, with clear peripheral lung fields. The electrocardiogram shows distinct right ventricular dominance. The arterial oxygen saturation is initially normal but may become slightly reduced as the disease progresses; yet cyanosis is usually not evident, and even when present, is mainly peripheral.

The clinical, electrocardiographical and roentgenological features of the disorder have thus taken recognisable shape, and it is not surprising that increasing number of cases are being clinically diagnosed, necropsy studies in some of them proving the correctness of the clinical diagnosis[3]. At necropsy, the effects of pulmonary hypertension are stamped unmistakably on the right side of the heart in the form of marked concentric or eccentric hypertrophy of the right ventricle, enlargement of the right auricle and dilatation of the pulmonary trunk, without any contributing cause like pulmonary or cardiac disease or any other being found after a thorough, careful search.

Reports on the histological changes in the pulmonary arterial tree in such cases, where the diagnosis was either made or confirmed at necropsy, have been of widely varying nature. No constant lesion in the pulmonary arteries could be found in a review of sixteen cases of primary pulmonary hypertension[4]. Three cases of right ventricular hypertrophy of unknown aetiology, in which the pulmonary arterioles were reported to be normal at necropsy, have been described[5]. On the other hand, widespread organic changes in the pulmonary vessels, particularly affecting the small muscular arteries and arterioles, in the form of fibrosing, obliterative endarteritis and endarteriolitis have been reported in a large number of cases[6-11]. A case of primary pulmonary hypertension[12] in which the significant lesion was blocking of the muscular pulmonary arteries by endarteritis fibrosa and presence of numerous foci of medial aplasia or hypoplasia in some of them has been reported. The authors maintained that the developmental deficiency in the media of the small arteries was an essential factor in the genesis of endarteritis, which again instituted and maintained the increased pressure in the pulmonary artery. Once hypertension was established, that by itself might have caused accentuation of the fibrosing lesions of the vessels, thus perpetuating a vicious cycle leading to relentless progression. In a report[9] of four cases of primary pulmonary hypertension diagnosed at necropsy, two cases had lesions similar to those described previously[12] and the other two showed a completely different picture. There

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was perivascular lymphocytic cuffing of the smaller pulmonary arteries and arterioles associated with severe perivascular fibrosis and reactive endarteritis causing obstruction to the pulmonary blood flow. In a review[13] of one hundred and eleven cases of hypertrophy of the right ventricle due to various causes eight cases which can reasonably be classified as primary pulmonary hypertension were only reported. Four of them were associated with lesions of necrotising arteritis in the large, medium or small pulmonary vessels ; in the other four, there was no demonstrable histological lesion in the pulmonary arterial system.

Pulmonary hypertension can be caused in two ways, either by an increase in the pulmonary vascular resistance or by a greatly increased pulmonary blood flow. Because of the enormous distensibility of the pulmonary arterioles, and the great capacity of the pulmonary vascular bed, adaptation to elevation of pulmonary blood flow of at least four times the normal level can occur without elevation of pulmonary arterial pressure[14]. That a continued pulmonary blood flow of at least more than fourfold the normal level can occur in absence of left-to-right shunt is beyond the realm of possibility. So it is reasonable to infer that in cases of primary pulmonary hypertension the hypertension is caused by an increased pulmonary vascular resistance.

In analysing the diversity of the histological findings in genuine cases of primary pulmonary hypertension, it is not easy to formulate the aetiology and pathogenesis of the condition. One thing, however, is evident ; it seems very likely that different causes may be responsible for the increased pulmonary vascular resistance in these cases. As organic arteriosclerotic and arteriolosclerotic changes have been observed in cases of secondary pulmonary hypertension, these alone cannot be considered, *par se*, responsible for the initiation of primary pulmonary hypertension, for they might well be the effect rather than the cause of the hypertension. Segments of medial aplasia and hypoplasia[6, 9, 12], which are of the nature of developmental defects, may be the aetiological factor in a small number of cases. Under stress of transient increase of right ventricular output there is uneven distension of the arterioles in such cases, and the deficient segments are subjected to a higher pressure. This is likely to initiate compensatory thickening of these segments by proliferation of subendothelial connective tissue. If a significant number of vessels are so affected, there is a substantial increase in the pulmonary vascular resistance leading to a rise in the pulmonary arterial pressure. Raised pulmonary arterial pressure stimulates more subendothelial connective tissue proliferation, which now is not limited to aplastic and hypoplastic segments only, but extends to regions over normal media as well. A vicious cycle thus sets in making the condition progressive.

Another aetiological factor, viz., an interstitial infection, possibly viral, affecting the pulmonary blood vessels, resulting in perivascular cuffing of the muscular arteries and arterioles with lymphocytes and marked reactive endarteritis leading to occlusion of their lumen, was suggested[9]. A third aetiological factor which may be responsible for some of the cases suggests itself on the basis of the necrotising lesions of the muscular arteries and arterioles described in some cases[12, 15]. Sensitisation due to repeated bacterial infection can affect blood vessels, as has been shown in vessels of the brain in cases of pneumococcal meningitis[16], and such sensitisation in case of lung will result in necrotic lesions of the pulmonary arterioles with fibrosing stenosis of the vessels as a sequela, leading to increased pulmonary vascular resistance.

There remains a substantial number of cases of primary pulmonary hypertension in which no lesions can be demonstrated in the pulmonary vessels at necropsy[4, 5, 14], and the increased pulmonary vascular resistance in these cases remains an enigma. A neurogenic constriction of the vessels can be assumed, for administration of sympathicolytic drugs or novocainisation of the dorsal paravertebral roots brings about a considerable drop in the pulmonary artery pressure of such patients[1]. But how this neurogenic vasoconstriction is brought about remains obscure in the present state of our knowledge.

Accurate diagnosis, which is often possible only by cardiac catheterisation or angiocardiography, is essential, for in some selected cases of pulmonary hypertension secondary to mitral stenosis or patent ductus, surgical intervention may prove useful. Diagnostic procedures in such cases are not without their hazards, and cases of death during cardiac catheterisation have been reported[3]. Once the diagnosis of primary pulmonary hypertension has been established, there is nothing much that can be done by way of treatment ; vasodilator drugs, such as tolazoline or hexamethonium compounds may be worth trying.

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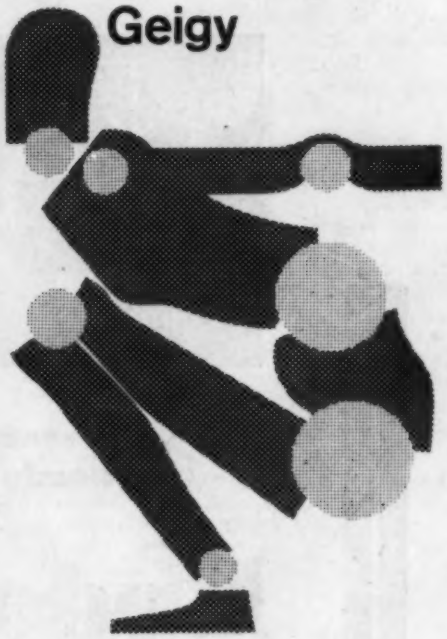

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CURRENT MEDICAL LITERATURE

Histoplasmosis

SEN AND GHOSH (*Indian J. Tuberc.*, **3** : 78, 1956) from a study on the incidence of histoplasmosis in 4,855 patients who show signs of lung infiltration but have a negative tuberculin test observe :

In addition to history and clinical examination, fluoroscopy was done and skiagrams were taken if indicated. All patients were tested with tuberculin. Simultaneously and on the same forearm, 0·1 c.c. of a 1 per cent solution of histoplasmin was injected intracutaneously. The time of reading and standard of reaction were the same as those of the tuberculin test. Sputum samples of patients who had a positive histoplasmin test were examined for *Histoplasma capsulatum*. Biopsy specimens of enlarged lymph nodes and skin lesions were examined for *H. capsulatum* in some cases. In a few cases sternal marrow aspirations were made for the same purpose. Sputum from all patients was examined for tubercle bacilli. Twenty-six of the patients had a positive histoplasmin test, 3,881 had a positive tuberculin test, 33 had a positive reaction to both tests, and 915 had a negative reaction to both. Of the 26 who reacted to histoplasmin, 14 had pulmonary calcification, 3 had pulmonary infiltration, 8 had no definite lung infiltration or calcification, and one had a large mediastinal shadow on the right side. No *H. capsulatum* could be isolated from any of these patients.

Adrenal Influence on the Stomach

SEYMOUR AND OTHERS (*Ann. Int. Med.*, **45** : 73, 1956) stress on the significance of the influence of pituitary-adrenal on the stomach as evidenced by the following observations :

A low incidence of chronic peptic ulcer and a decrease in gastric acidity are characteristic findings in patients with Addison's disease.

Bilateral adrenalectomy reduces the gastric volume and acidity in experimental animals and is accompanied by an associated involution of the gastric tubular cells.

A low uropepsin excretion is invariably found in Addison's disease patients, with a return to normal or elevated levels during replacement glucocorticoid therapy.

An increased uropepsin excretion occurs in states of adrenal hyperactivity (Cushing's disease).

There appears to be an exaggerated gastric response to administered adrenal steroids in the addisonian and in patients following bilateral adrenalectomy.

Chronic peptic ulcer *de novo* or reactivation of symptoms of a previously existing ulcer has been demonstrated in Addison's disease patients receiving cortisone replacement therapy.

Antacid therapy may be indicated in Addison's disease patients maintained on long-term glucocorticoid therapy (Authors' summary).

Tinea Pedis in General Practice

GOULD AND SCHWARTZ (*Practitioner*, **176** : 670, 1956) write that the major problem of tinea pedis is that of relapses particularly after a period of hot weather. The authors selected a naphthylmethane disulphonate (penotrane), which is available as an aqueous solution (0·1 per cent), a jelly (0·1 per cent), a tincture (0·1 per cent) containing 50 per cent alcohol, or a dusting powder (0·4 per cent). The patients were instructed to observe strict foot hygiene, involving twice-daily foot washing with separate towels, avoiding contact between bathroom floor and mats and the bare feet, and daily changing and washing of socks. The powder was used throughout treatment by dusting on to the feet and into the socks and shoes. Twice daily, morning and night, either the solution, jelly, or tincture was used. The jelly was applied with gentle massage; the solution and tincture were applied with swabs of cotton-wool and allowed to dry before dusting the feet with powder. In most cases the solution was used initially with the powder, as evaporation of the lotion assisted in drying and hardening any sodden white skin. If continued application of the solution tended to produce excessive drying, the emollient jelly was used instead to prevent the skin from becoming brittle and scaly, but the solution was again applied at the first sign of any renewed sogginess.

Of 45 patients treated with penotrane, 36 obtained excellent or good results, 7 fair results, and 2 no result. There were no relapses throughout the summer in any of the patients who had successfully completed treatment by or before May, 1955.

Cortisone in Low-Salt Syndrome

GRABER (*Brit. M. J.*, **1** : 778, 1956) writes that patients who have undergone major surgical operations occasionally show abnormally low plasma sodium and chloride levels even after a positive salt and water balance has been reestablished by suitable electrolyte replacement. Cortisone, given to five such patients on the assumption that their persistent hyponatraemia was due to a transient exhaustion of adrenocortical function, proved to be a prompt and effective remedy. The best explanation for the rapid changes in plasma electrolytes that followed the administration of cortisone in these patients is that the cortisone altered the permeability of the cells, making it possible for sodium and chloride to pass quickly from the cells into the plasma and so restoring a normal plasma electrolyte picture and relieving intracellular oedema. This explanation is supported by the fact that cortisone administration was followed almost immediately by a great increase in the urinary output of sodium and a relative reduction in that of potassium.

The results obtained in these patients suggest that cortisone therapy has a place in the treatment of otherwise intractable postoperative low-salt syndrome. Its advantages, however, should be carefully weighed against the known dangers of cortisone administration.

Tetracycline and Chlortetracycline in Pneumonia

The following is the summary of the Report from the City General Hospital, Sheffield on the comparison of tetracycline with chlortetracycline in the treatment of pneumonia :

Thirty-two patients were treated with tetracycline and 24 with chlortetracycline (aureomycin) in a controlled trial of the two antibiotics in clinical pneumonia. The dosage was 0·5 g. orally six-hourly for three days,

followed by 0·25 g. six-hourly in either case. Desperately ill patients received initial intravenous administration of the drugs.

The patients who were given tetracycline were slightly older and more of them had lobar consolidation and a positive blood culture than those who received chlortetracycline, but otherwise the two groups were comparable. In most cases the pneumonia was pneumococcal and about half of the patients in each group had chronic chest disease.

The results show that tetracycline is as effective as chlortetracycline in the treatment of bacterial pneumonia. Deaths were few and were confined to elderly patients with serious complicating diseases.

The incidence of side-effects amounted to about 30 per cent with each antibiotic, although most of these effects were mild. This does not confirm the reported lowered toxicity of tetracycline.

The only serious complications followed tetracycline therapy, that is, one case each of staphylococcal enteritis, pulmonary moniliasis, and aspergillosis; in the last case the patient died.

Tetracycline suffers from the same disadvantages as other broad-spectrum antibiotics and should be used only with appropriate care and consideration.—*Brit. M. J.*, **2** : 1140, 1956.

Radiological Methods in Detection of Organic Disease of Small Intestine

GOLDEN (*Indian J. Radiology*, **10** : 47, 1956) in his 6th Sir Jagadish Chandra Bose memorial lecture read at the 10th Indian Congress of Radiology, Bombay on the contribution of radiological methods in the detection of organic diseases of small intestine observes :

A statistical study of 168 cases of organic disease of the jejunum and ileum was made to determine the incidence of certain symptoms and of the physical characteristics of the lesions as described by the pathologist. Bleeding was relatively uncommon in regional enteritis but it occurred in nearly one-half the cases of intestinal tuberculosis and neoplasms. Diarrhoea was frequently encountered in the inflammations but was uncommon with the primary neoplasms. Abdominal pain was present in a large proportion of all the cases but was not recorded in 8 or 14 carcinoids.

All of the lesions in this series of cases occurred much more frequently in the ileum except the carcinomas which were situated more frequently in the jejunum. Excluding the carcinomas, multiple lesions were found in from one-quarter to one-half of the cases, particularly carcinoids and lymphomas.

In 133 of the 168 cases x-ray examinations were made and evidence of an abnormality consistent with an organic disease was demonstrated in 121 (90 per cent).

Another study was made of 73 cases of neoplasm of the small intestine to determine the types of abnormality demonstrable by x-ray methods of examination and to discover, if possible, the reasons why some organic lesions are not detected.

The effect of organic disease, including tumors, is usually to narrow the lumen, to destroy the mucosa or to obliterate the mucosal folds. Less frequently the tumors may cause mechanical ileus by an annular constriction, intussusception with or without ileus, or a filling defect in the barium shadow produced by a mass projecting into the lumen.

The intestine has the ability to compensate for a gradually increasing constriction, so that mechanical ileus is a very late manifestation of annular malignant disease.

The most satisfactory method of routine examination is the small intestine study with a non-flocculating preparation of barium sulphate. Miller-Abbott tube examination of the small intestine enema may be necessary in selected cases.

Failure to detect neoplasms of the small intestine in this series of cases appears usually to result in large measure (1) from failure of the observer to note an abnormality shown by the examination; (2) from flocculation of the barium sulphate in the intestine; (3) from failure to carry out a complete small intestine study.

In many cases an exact diagnosis of the demonstrable abnormality is impossible because different neoplasms have a similar physical effect on the wall of the intestine. Inflammatory disease may simulate a neoplasm or *vice versa* in rare instances. In the presence of abdominal pain or intestinal bleeding, the demonstration of an abnormality consistent with neoplastic disease is sufficient in the great majority of cases to lead to correct surgical treatment. (Author's summary).

Tetracycline in Venereal Disease

RAJAM AND OTHERS (*Antiseptic*, **53** : 9, 1956) observe :

110 patients suffering from the various venereal diseases were treated with capsules containing tetracycline, sulfadiazine, sulfamerazine, and sulfamethazine and intramuscular injections of tetracycline alone. Acute uncomplicated gonococci urethritis responded to 300 mg. of tetracycline given intramuscularly. One gram of the drug orally cured 88 per cent of the patients with acute urethritis. By increasing the dose to 2 g., a higher cure rate was obtained. When epididymitis complicated the disease, a dose of 4 g. orally for four days, or 400 mg. intramuscularly daily for four days, constituted the minimal curative dose. Tetracycline was effective against the inguinal type of venereal lymphogranuloma, granuloma inguinale, and chancroid, when given by mouth. In the anorectal type of venereal lymphogranuloma, the inflammatory reaction subsided rapidly with treatment but the fibrosis remained unaffected. The combination of the drug with sulfonamides tended to cause of severe febrile reaction on the eighth or ninth day of treatment and hence is not recommended for the treatment of any venereal disease except chancroid, the treatment of which is of short duration (six or seven days). The series included only four patients with early syphilis, but the results obtained with tetracycline were satisfactory. Two of these cases were associated with pregnancy, and the features worthy of note were cure of the maternal infection and the prevention of congenital syphilis in the infant. The immediate response in patients with non-gonococci urethritis and Reiter's syndrome was also satisfactory. This drug is thus a useful adjunct in the treatment of venereal diseases.

CURRENT TOPIC

IMPRESSIONS OF A RECENT SURVEY OF CANCER CENTRES AROUND THE WORLD†

N. B. ROY,* D.M.R.T.R.C., P. & S. (ENG.),

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Historical Background

It is perhaps necessary, in the beginning, to explain the genesis of the International Congress of Radiology. Even since the discovery of x'rays, the pioneer workers on radiology were meeting from time to time to discuss their problems. The meetings were not international in character but it was generally felt that a need existed for radiologists from all over the world to meet and discuss their mutual problems. It was, however, not until 1925 that the First International Congress in Radiology was organised in London under the inspiring leadership of Thurstan Holland. Since then, the radiologists began to meet every three years in order to assess and summarise the advances made. The Second Congress was held in Stockholm in 1928 under the presidentship of Gosta Forsell, the third in Paris under the presidentship of Antoine Beclere in 1931, the fourth in Zürich in 1934 under the presidentship of Hans Schinz, the fifth in Chicago in 1937 under the presidentship of Arthur Christie. The sixth was proposed to be held in Germany in 1940 but the Second World War intervened and it was held in 1950 in London under the dynamic inspiration of Dr. Ralston Paterson. The seventh was held at Copenhagen in 1953 and it was decided that, as the Congress was really becoming too big a body, it was preferable to have a smaller organisation to deal with the problems of radiotherapy only. In order to have closer contact among members, this body was named as International Radiotherapy Club and I was elected as one of the Founder-members and incidentally the only representative to this organisation from the continent of Asia. It was this body which held a Scientific Conference after the International Congress of Radiology at Mexico City and invited me to take part in a symposium organised under its auspices under the chairmanship of Constance Wood of Great Britain. I was also asked to report on the organisational set-up of the radiological centres in the different Asian countries.

Cancer Centres in the East, U.S.A., Europe

On leaving India, my first round of tour consisted of a critical survey of the important radiological centres in Burma, Thailand, Malaya, Singapore, Indonesia, Philippines, Hong Kong and Japan. Our Burmese colleagues are really in difficulties. They have very few qualified radiologists and their centres are not well-staffed or well-equipped. Thailand has some very nice diagnostic centres, specially in their teaching hospitals. They have quite a number of well-qualified radiologists to manage these centres but their therapy centres leave room for improvement. Dr. Siwawessy, an esteemed colleague of mine and a good friend is trying very hard to improve the organisation of radiology at Djakarta and he really has some difficult years ahead of him. At Singapore, I was much impressed with the organisational set-up at the teaching hospital and I congratulated Dr. Khoo, a Chinese radiologist who was the Head of the Department of Radiology. Both the diagnostic and therapeutic departments were functioning very well indeed. At Hong Kong, the Queen Mary's Hospital also was quite a satisfactory set up. Dr. Ho was another Chinese radiologist, a radiotherapist really, who showed admirable organising ability. The Philippines have quite a number of centres distributed in many different hospitals. Their Health Minister is a radiologist and he told me that he is attempting centralisation of radiotherapy now. Japan has probably the largest number of radiologists in any country except the United States. Some of the centres are quite good. Cobalt beams are plentiful in Tokyo and isotope research is going on well. But the organisation leaves room for improvement and the Japanese scientists are realising this too.

I then flew over to Seattle in Washington State and spent some time with Dr. Cantril at the Tumour Institure of Swedish Hospital. He is a pioneer worker on million volt therapy. The next halt was at San Francisco and there I had the good fortune to watch Dr. Robert Stone treating a few patients (started only five days ago) by a 70-million volt Synchrotron, the most powerful machine employed so far anywhere in the world to treat cancer patients. I spent some time also at University of California, Los Angeles where a specially designed Cobalt Beam Unit has been presented by the United States Atomic Energy Commission. I then flew over to Mexico City for the two International Conferences. I came back to the States again and visited some very fine institutions at Houston, Texas (M. D. Anderson Hospital for Cancer Research), St. Louis, Chicago, Mayo Clinic, Buffalo, Boston and New York.

I then flew over to London and after stops at London, Manchester, Bradford, Germany and Zürich came back home. The main feature about these American Centres is that they are very well-equipped, very well-staffed, very well-organised but they, perhaps, could do with more patients.

Trends at Congress

The Congress at Mexico City was really excellent. More than 2,000 delegates attended from all over the globe. The technical exhibition showing advances in apparatuses was excellent. The trend was more on supervoltage apparatus and cobalt beams rather than on conventional therapy. An excellent scientific exhibition delighted the delegates. The Scientific Sessions —divided into diagnostic, therapeutic, biological, technological and physical sessions—were both extensive and intensive. It is impossible for one person to attend to all aspects and I restricted myself to the therapy

† From a lecture delivered before the members of the I.M.A., Calcutta Branch, in September 1956.

* National Delegate for India, 8th International Congress of Radiology, Asian Representative, International Radiotherapy Club.

sessions. Following the Congress, the international radiotherapy conference was held for two days and then we dispersed gaining a little more knowledge in the technical advances in radiotherapy but perhaps gaining much more in the renewal of old friendships and establishing new contacts with so many people from different parts of the globe. It is my strong belief that the greater the scientific contact among the different nations of the world, the greater is the chance of mutual distrust and hatred disappearing. Whatever may be the differences in politics, the differences in geography or harsher still, the differences in history, medicine remains international.

Lessons for India

If now, we want to profit from the experiences gained and the trends shown at the Congress we have to incorporate some of the technological and organisational advances which are considered absolutely essential. The International Radiotherapy Clnb has unanimously recommended that all the countries of the world should try to implement three fundamental organisational principles. These are :

1. Centralisation of cancer treatment.
2. Team-work : Surgeon, gynaecologist, radiotherapist, pathologist.
   In this team—physicist is an essential member.
3. A clear and uncompromising division of radiology into diagnosis and therapy as two distinct and separate specialities.

In conclusion, my appeal to you, fellow-members, is that each and every one of you should look upon these as good foundations for a progressive, national, radiotherapeutic policy.

NOTES AND NEWS

The World Medical Association

The Secretary General of the World Medical Association strongly urged that the United Nations insist that the International Committee of the Red Cross be permitted to distribute without interference all necessary aid to the devastated people of Hungary.

The 53 national member associations, numbering more than 700,000 doctors were also urged to send all possible medical and financial aid to the Hungarian people and doctors, through the International Red Cross Committee. The International Red Cross was notified that these steps had been taken.

World Congress on Fertility and Sterility

International Fertility Association is a world-wide organisation with national secretaries in 63 countries and a membership strength of 1600 scientists. International Fertility Association offers its membership to all scientists interested in either human or animal reproduction.

352 scientific papers with 12 round table conferences and four special lectures in human reproduction and animal fertility problems were discussed at the Second World Congress on Fertility and Sterility held in Naples (Italy) from 18th May to 26th May (inclusive) 1956.

This Conference was attended by 1250 delegates and 500 visitors from 65 countries including Russia. The Indian delegation consisted of six members.

Prof. L. J. Witts Visits Calcutta

Dr. L. J. Witts, Nuffield Professor of Clinical Medicine, University of Oxford and a pioneer haematologist, arrived in Calcutta from Australia on the 24th November 1956. During his five day stay in Calcutta he visited School of Tropical Medicine where he spent a full day and delivered two lectures on (i) Anaemia and Alimentary Tract :—(a) Anaemia of Iron Deficiency and (b) Anaemia of Folic Acid and Vitamin B_{12} Deficiency—in which he discussed the value of modern investigative tools for the elucidation of anaemias related to dysfunction of alimentary tract. He mentioned particularly the role of tube-less gastric analysis as performed with a cation exchange indicator (quinine resin compound), gastric biopsy with Wood's tube, microbiological assay of serum vitamin B_{12}, radioactive cobalt for assessing the status of intrinsic factor. (ii) Splenomegaly and Splenectomy—he discussed in detail the aetiopathological and diagnostic aspects of splenomegaly. From a series of 110 cases, he evaluated the indications, scope and limitations of splenectomy in various blood dyscrasias. His experience with splenectomy in aplastic anaemia has so far been disappointing. He also visited Medical College group of Hospitals, where he gave a talk reviewing the present position of anaemia in pregnancy, S.S.K.M. Hospital, All-India Institute of Hygiene and Public Health and Chittaranjan Cancer Hospital. Under the auspices of the Calcutta branch of Indian Medical Association and Calcutta Medical Club he delivered a lecture on A.C.T.H. and Corticosteroids in treatment in which he emphasised the indications and value of these hormones in the management of haematological disorders and in ulcerative colitis.

He also spent a few days in New Delhi visiting all the important medical centres.

Prof. M. M. Wintrobe in India

Prof. M. M. Wintrobe, Head of the Department of Internal Medicine, University of Utah and a renowned haematologist, well known all over the world for his outstanding haematological contributions and for his unrivalled textbook "Clinical Haematology" recently spent ten weeks in India on a Fullbright assignment. He took particular interest in studying carefully the local medical problems in general and haematological problems in particular. He visited the important medical centres in Calcutta, New Delhi, Lucknow, Agra, Madras, Bangalore, Mysore, Coonoor and Bombay. He delivered a series of very comprehensive and stimulating lectures on current haematological topics, viz., (i) Spleen and Splenic Disorders, (ii) Factors and Mechanisms of Erythropoiesis, (iii) Haematological Reactions due to Drugs, (iv) Management of Leukaemia and Allied Disorders, (v) Haematology Yesterday and To-day and (vi) Haemolytic Anaemia and Haemoglobinopathic Syndromes.

Dr. Wintrobe presided over the haematologic session of the 7th annual conference of the Indian Association of Pathologists and participated in the deliberations of haematological subcommittee meeting of Indian Council of Medical Research held recently in Mysore. His inspiring lectures, comprehensive discussions, careful study and valuable comments will go a long way to further the cause of medical science in general and haematology in particular.

Department of History of Medicine, Andhra Government

The department of History of Medicine which was sanctioned by the Andhra Government and located in the Andhra Medical College Buildings, Visakhapatnam, was opened by Srimati M. Chandrasekhar, Union Dy. Minister of Health on 20-9-56. It is the first of its kind in India.

This department will try to answer any enquiries relating to the History of Medicine, i.e., lists of books, source materials, individuals, institutions interested in particular branch or subject or epoch or author.

All-India Medical Licentiates' Conference

The Golden Jubilee session of the All-India Medical Licentiates' Association Conference was held in Delhi on 18-12-56. President Dr. Rajendra Prasad inaugurated the session.

Indian Anatomists Meet in Calcutta

The three-day annual conference of Anatomists of India was inaugurated at R. G. Kar Medical College, Calcutta on 30-12-56 by the West Bengal Health Minister, Dr. A. D. Mukharji.

Presiding over the conference Dr. T. P. Sinha, Head of the Department of Anatomy, Patna University, expressed satisfaction at the change of attitude that was coming amongst all concerned in respect of anatomy. He hoped that the subject would no longer be regarded as a dead one.

Referring to the development of study of anatomy Dr. Sinha said that for the last five years the Anatomical Society of India had been endeavouring to introduce living anatomy in teaching. He thought that after the incorporation of histology with anatomy, the teaching of the subject would undergo reorientation in a useful and interesting pattern.

Dr. A. D. Mukharji in his inaugural address emphasised that ample stress should be laid in the teaching of applied anatomy to students in order to turn out good doctors.

Filaria Infection Research

The Scientific Advisory Board of the Indian Medical Council approved a budget of Rs. 78 lakhs for financing 296 research schemes to be taken up in 1957.

The sum included provision for a new building for housing the Nutrition Research Laboratory in Hyderabad and for the expansion of the Virus Research Centre at Poona.

The Board also recommended two research units one at Calcutta and the other either at Trivandrum or Ernakulam for combating filarial infection. It decided to undertake pilot studies for the control of guinea worms disease and recommended the starting of a cholera advisory centre at Calcutta.

Setting Up Second D.D.T. Plant

The execution of the project for setting up a second D.D.T. factory at Alwaye (Kerala) has been carried a stage further with the selection of a U.S. firm for a "turnkey" job of supply, installation and comissioning of the plant.

The factory, which is expected to cost about Rs. 80 lakhs, will have a capacity of 1,400 tons of D.D.T. per year. The factory is expected to go into production by the middle of 1958.

The total value of the contract awared to the U.S. firm is $737,100 of which the rupee expenditure may be of the equivalent of $150,000. The firm has guaranteed to put up the complete plant and bring it to full production within a period of 18 to 23 months. There is provision for bonus for every day that the firm shows full production before 18 months and penalty for each day that the production is delayed after 23 months.

The Alwaye factory will be managed by the Hindustan Insecticides (Private) Ltd., a Government-owned company under the Ministry of Production, which is entrusted with the management of the Delhi D.D.T. factory. Work on the project has already begun. When in full production, the factory is expected to employ 250 persons.

With the completion of the Alwaye project, India will be self-sufficient in the requirements of anti-malaria insecticides. The capacity of the Delhi D.D.T. factory is to be doubled and insecticides other than D.D.T. are being produced at the rate of 2,000 tons per year by private manufacturers. The total requirements are estimated at 5,000 tons per year.

Rockefeller Grant

The Rockefeller Foundation announced the grant of 2,500 dollars for the Madras Medical College toward the development of its department of pediatrics.

The Rockefeller Foundation also announced the grant of 88,000 dollars to the Indian Council of Medical Research in Delhi for neurological research. The foundation feels that the prevalence in India of a number of diseases which involve the nervous system such as lathyrism, nutritional deficiencies and leprosy provide excellent opportunity for neurological investigation. Leprosy particularly which commonly produces selective damage to nerves, difficult or impossible to duplicate experimentally, offers, according to the foundation, unique opportunities for study of the pathology and physiology of nerves and specially their sensory distribution.

CORRESPONDENCE

The Editor is not responsible for the views expressed by correspondents

National Formulary Committee

SIR,—By a Notification of the Ministry of Health, dated November 7th, 1956, the Government of India has appointed a Committee to prepare a National Formulary containing a list of certain essential combinations, it being the declared intention of Government, as stated in the Notification, to limit manufacture to these formulations and therefore, by inference, to limit the prescribing of doctors to the National Formulary.

In the United Kingdom, the British Medical Association has always resisted attempts on the part of Government to dictate what they shall prescribe, and the Indian Medical Association should contest strongly this preliminary attempt to limit the freedom of the medical profession to prescribe what they think best or the freedom of manufacturers on medical advice to market special formulations. I am etc.

Back Bay View,
New Queen's Road,
Bombay 4.

J. C. PATEL, B.SC., M.D. (BOM.), PH.D., M.R.C.P. (LOND.).

"Tropical Eosinophilia"

SIR,—With reference to the difference of opinion on the correct nomenclature of the syndrome now known as "Tropical eosinophilia" (*J. Indian M. A.*, **27**: 195, 1956), I would suggest the term "Eosinophilic Bronchitis". I feel that this term would correctly represent the symptomatology of the syndrome. I would be happy to know the opinions of my colleagues on the matter through the columns of the J.I.M.A. I am etc.

183/1, Dharamtala Street,
Calcutta.

K. K. BAJAJ.

REVIEWS

Synopsis of Genito-urinary Diseases—By Austin I. Dodson, M.D., F.A.C.S. and Edward Hill, M.D. Published by the C. V. Mosby Company; sixth edition, 1956. Board bound, 330 pp., 124 illustr. Price $4.85.

Appearing first in 1937, this book has passed through five editions, the last of which was four years ago. Genito-urinary surgery, and diseases, have gradually become important enough for separate study, even by the modern undergraduate students, not to speak of the postgraduates. Accepting the primary limitation that a "synopsis" cannot possibly supplant, but only supplements the services rendered by a text book, it must be said that this volume is at once handy and dependable. The paper, printing, typography, the size and the get-up are commendable, the text having been made more acceptable to the reader by the liberal use of illustrations. The book will be acclaimed by the hard-pressed examinee as also by the busy practitioner.

Differentialdiagnose innerer Krankheiten, Eine kurzgefafite Darstellung für Ärzte und Studierende. Von. Priv.-Doz. Dr. R. Hegglin, St. Gallen, 4., erweiterte und verbesserte Auflage, 1956. XVI, 678 Seiten, 372 zum Teil mehrfarbige Abbildungen, Gr.-8°, Ganzleinen DM 69.60.

Differential Diagnosis of Internal Diseases; a short treatise for physicians and students by Priv. Doz. Dr. R. Hegglin, St. Gallen. 4th enlarged and improved edition, 1956. XVI, 678 pp., 372 partly multicoloured illustr. (in German) DM 69.60.

This book became quickly a best-seller; since its first publication in 1952 every year a new edition was required, apart from two Italian and one Spanish edition.

The high expectations which are roused by such a history are fully satisfied. Throughout this solid volume one feels the guiding hand of a very experienced clinician who looks at diseases both from outside, closely watching characteristic appearances, illustrated with good photos, and, still more, from inside, emphasising everywhere the pathophysiological mechanism; in this way the book satisfies to a rare extent the requirements of the practitioner, who needs a clear-cut way to the right diagnosis, as also those of the scientific minded clinician who seeks a deeper understanding of pathological processes.

The 19 chapters are packed with information on every topic which could conceivably enter into diagnostic considerations and cover most recent developments competently and reasonably completely.

The chapters on haemolytic anaemias, fevers, dyspnoea (40 pp.), cyanosis (20 pp.), pain in the extremities (50 pp.) and, particularly, that on unconsciousness are worth of special mention, although the discussions of headache, hyper- and hypotension, pulmonary changes (50 pp.), hilar enlargement, enlarged lymph glands and abdominal pain (40 pp.) are not less interesting.

That syphilitic changes are somewhat stepmotherly treated, the often severe headache of secondary syphilis, for instance, being omitted, is probably due to sanitary conditions in Switzerland.

Laboratory methods are purposely relegated to the background in favour of the clinical approach, although they are discussed wherever necessary.

Every chapter shows at the end a short selection of literature in various languages. The index is not the best part of this book.

Illustrations, paper and print are of the excellence that one expects from these publishers.

Good guides to differential diagnosis being decidedly rare in Anglo-Saxon literature, an English translation of this beautiful work should be most welcome.

ERRATUM

December 16, 1956 issue, P. 434, Col. 1, line 6: *In place of* N. K. Mazumdar, M.B., *please read* M. K. Mazumdar, M.B.

SUPPLEMENT

Journal of the Indian Medical Association

VOL. 28, No. 2 CALCUTTA JANUARY 16, 1957

ASSOCIATION NOTES

I. M. A. WORKING COMMITTEE—*Proceedings of the 58th Meeting of the Working Committee of the Indian Medical Association held at Dehra Dun on the 24th, 25th and 26th October, 1956 :*

(Subject to confirmation)

MEMBERS PRESENT—(a) *Ex-Officio Members* : 1. Dr. A. C. Ukil (Calcutta)—President (in the Chair). 2. Dr. S. C. Sen (New Delhi)—Immediate Past President. 3. Dr. P. R. Trivedi (Ahmedabad)—Senior Vice-President. 4. Dr. A. K. Bose (Calcutta)—Vice-President. 5. Dr. A. P. Mittra (New Delhi)—Hony. General Secretary. 6. Dr. Ved Prakash (New Delhi)—Hony. Joint Secretary. 7. Dr. Sukomal Sen (Calcutta)—Hony. Joint Secretary. 8. Dr. P. K. Guha (Calcutta)—Editor, Journal of the I.M.A.

(b) *Representatives from State/Territorial Branches* : 9. Dr. G. V. Hanumantha Rao; 10. Dr. T. Chidanandan—Andhra State Branch. 11. Dr. P. C. Duarah—Assam State Branch. 12. Dr. N. K. Munshi; 13. Dr. J. Mojumdar; 14. Dr. A. N. Roy; 15. Dr. Salil Dutt; 16. Dr. K. P. De—Bengal State Branch. 17. Dr. Arvind M. Shah; 18. Dr. C. S. Thakar—Bombay Territorial Branch. 19. Dr. R. C. Goulatia; 20. Dr. P. C. Bhatla—Delhi State Branch. 21. Dr. Y. M. Subedar; 22. Dr. B. G. Mehta; 23. Dr. S. N. Mankad—Gujarat & Saurashtra Territorial Branch. 24. Dr. M. Yusuf Mirza—Hyderabad State Branch. 25. Dr. Y. P. Vasudevan—Madras State Branch. 26. Dr. B. K. Modak; 27. Dr. C. N. Chandrachud—Maharashtra and Karnatak Territorial Branch. 28. Dr. T. K. Dayalu; 29. Dr. T. A. Dorai Royan—Mysore State Branch. 30. Dr. B. L. Kapur; 31. Dr. F. C. Shori—Punjab State Branch. 32. Dr. D. G. Ojha—Rajputana State Branch. 33. Dr. C. O. Karunakaran; 34. Dr. R. Ananthanarayanan—Travancore-Cochin State Branch. 35. Dr. M. M. S. Siddhu; 36. Dr. Durga Prasad; 37. Dr. Bhola Nath—U. P. State Branch.

(c) *Co-opted members* : 38. Dr. S. N. Kaul (Delhi). 39. Dr. K. K. Sen Gupta (Calcutta). 40. Dr. D. S. Mehra (Delhi). 41. Dr. H. N. Shivapuri (Lucknow). 42. Dr. Chamanlal M. Mehta (Bombay).

(d) *Invited members* : 43. Dr. Madan Mohan (Dehra Dun)—Hony. Secretary, Dehra Dun Branch, I.M.A. 44. Dr. (Mrs.) P. I. Chatterjee (Dehra Dun)—President, Dehra Dun Branch, I.M.A.

1. *Resolution of Condolence* :

The following Condolence Resolution was unanimously passed, all members standing and observing silence for one minute :

"This meeting of the Working Committee of the Indian Medical Association places on record its deep sense of sorrow at the sad demise of the following members of the Association and conveys its heartfelt sympathy to the members of the bereaved families :

1. Dr. S. N. Misra (Kanpur). 2. Dr. L. M. Basu (Allahabad) 3. Dr. A. Thomas (Kottoyam). 4. Dr. M. N. Verma (Monghyr). 5. Dr. S. M. Kambli (Bombay). 6. Dr. Satyendra Nath Mukherji (Banaras). 7. Dr. Amulya Charan Ghosh (Bhagalpur). 8. Dr. H. A. Patel (Surat). 9. Dr. A. S. Barot (Dohad). 10. Dr. U. N. Karkun (Kanpur). 11. Dr. Fakiray Ram (Kanpur). 12. Dr. J. Y. Arthur (Nagapattam). 13. Dr. B. K. Banerjee (Raipur). 14. Dr. S. C. Anand (Delhi). 15. Dr. N. De (Sultanpur). 16. Dr. Shankar Rao Jadhav (Hyderabad). 17. Dr. H. N. Soni (Ambala City). 18. Dr. A. L. Kasad (Surat)."

2. *Messages of inability to attend the meeting* :

Messages of inability to attend the meeting received from the following members were read :

1. Dr. H. R. Dawar (Delhi). 2. Dr. R. V. Sathe (Bombay). 3. Dr. U. Krishna Rau (Madras). 4. Dr. P. Veeriah Chowdhury (Guntur). 5. Dr. B. S. Mehta (Lucknow). 6. Dr. T. V. Sivanandan (Coimbatore). 7. Dr. R. Sinha (Calcutta). 8. Dr. B. K. Vinchure (Nagpur). 9. Dr. A. P. Shukla (Ahmedabad). 10. Dr. G. S. Melkote (Hyderabad). 11. Dr. S. M. Ghoshal (Patna). 12. Dr. Damodar Prasad (Patna). 13. M. S. Narayan Rao (Bangalore). 14. Dr. B. V. Mulay (Sholapur)—Co-opted; 15. Dr. P. B. Mukerjee (Calcutta)—Co-opted; 16. Dr. S. Roy Chowdhury (Calcutta)—Co-opted.

3. *Confirmation of the Proceedings of the 57th meeting of the Working Committee held at Calcutta on the 7th and 8th April, 1956.*

Dr. A. K. Bose (Calcutta) suggested deletion of paras 2 and 3 of Item 33 of the Minutes, on the ground that the resolution mentioned in these paras was neither under discussion, nor was the resolution placed before the Committee and furthermore, the mover of the resolution was not asked as to why he had moved the resolution. Considering these remarks of Dr. A. K. Bose, the Working Committee decided to delete the two paras as detailed above.

Dr. J. Mojumdar (Calcutta) pointed out that under Item 4 (v), line 15, the letters "I.M.A." be substituted by the letters "I.M.C." It was done.

With these minor amendments, the Minutes of the 57th meeting of the Working Committee were duly approved.

4. *Business arising out of the proceedings of the last meeting of the Working Committee.*

(1) *Coal Mines Labour Welfare Committee.*

The Report of the Coal Mines Labour Welfare Committee as presented was adopted.

(2) *D.T.M. Course at Tropical School of Medicine, Calcutta.*

The Report of the deputation which waited on the Chief Minister, West Bengal was adopted by the Working Committee with the following remarks :

The Indian Medical Association should request the various authorities concerned to confer a Diploma, instead of a Certificate, at the end of the various examinations held. The President was requested to pursue the matter further.

(3) *Working conditions of A.M.O.'s in the Tea Gardens.*

The Report of Dr. U. Krishna Rau (Madras) on the working conditions of A.M.O.s in the Tea Gardens was adopted and the Central Office was asked to take appropriate action.

(4) *Proposed amendment of the Indian Medical Council Act.*

The President summed up the latest position. He informed the house about the result of a deputation consisting of the following, which waited upon the Union Minister of Health on the 17th August, 1956 :

1. Dr. A. C. Ukil (Calcutta), President, I.M.A. 2. Dr. S. C. Sen (New Delhi), Immediate Past President. 3. Dr. D. V. Venkappa (Madras). 4. Dr. P. R. Trivedi (Ahmedabad), Vice-President, I.M.A. 5. Dr. G. V. Joshi (Hubli), Vice-President, I.M.A. 6. A. P. Mittra (New Delhi, Hony. General Secretary, I.M.A. 7. Dr. J. Mojumdar (Calcutta)

The President also informed the house about his personal dsicussions with the President of the I.M.C. and Dr. B. C. Roy, member of the I.M.C.

In view of the information available, the Working Committee decided to take the following actions :

(1) To prepare a short Memorandum, giving the views of the Association. A Sub-Committee of the following 4 members was to prepare the draft of this Memorandum as early as possible :

1. President, I.M.A. 2. Capt. P. B. Mukerji (Calcutta). 3. Dr. J. Mojumdar (Calcutta). 4. Dr. Sukomal Sen (Calcutta)—the Convener.

(2) The members of I.M.C. itself or any of its Sub-Committees dealing with the matter of Amendment of the Act to be approached individually and the I.M.A. viewpoints explained to them.

(3) The Delhi Medical Association, with the help of the Central Office to lobby the members of the Lok Sabha slightly prior to the presentation of the Bill.

Finally, the President was requested to take any action he thought fit in case of any sudden emergency arising in connection with this Bill.

(5) *Handicaps suffered by Licentiate members of the I.M.A. with regard to post-graduate training and service conditions.*

The matter had been dealt with by the Standing Committee on Medical Education and Research, and a copy of this Sub-Committee's Report had already been circulated to the members of the Working Committee.

A general discussion on the subject took place, during which the following was noted :

The house was informed that the Medical Council of India had not recommended the continuance of the condensed course for Licentiates beyond April, 1956. The Working Committee decided to pursue its efforts for getting these courses restarted and it also decided to do the following :

(1) To make representations to the Medical Council of India. (2) To request the Government of India to provide funds and facilities at the Medical Colleges to enable them to continue the Condensed Course at least up to 1961, as had been recommended by the Central Council of Health. (3) The Government of India and the State Governments should provide monetary help to encourage deserving Licentiate candidates to take up the Condensed Course.

The Central Office was asked once again to find out as to what number of Licentiates wanted to undertake the Condensed Course.

(6) *Planning Commission Prohibition Enquiry Committee's questionnaire on prohibition.*

The Sub-Committee had not yet submitted its report. The Committee was requested to submit its Report at an early date.

(7) *First World Conference on Medical Education and the proposed Second Conference to be held in 1959 in U.S.A.*

The Report of the Standing Committee on Medical Education and Research (as circulated) was adopted. It was decided to forward a copy of this Report which included the recommendations of the Indian Medical Association regarding medical education, to the World Medical Association.

(8) *Second Five Year Plan.*

Dr. A. K. Bose (Calcutta), the Convener of the Second Five Year Plan Standing Committee, presented the report which was adopted by the Working Committee after certain minor modifications which were incorporated in the Report.

At this stage the President requested the Medical and Health Services Committee to make a study of the Draft Public Health Act (Government of India) and to present the Report to the Working Committee.

(9) *Situation arising out of resignation of the Honorary doctors of Seth V. S. Hospital, Ahmedabad.*

The Sub-Committee's report was adopted. The Ahmedabad Medical Society's further correspondence on the subject was noted.

(10) *Letter dated 5/11/1955 from Dr. H. V. Upadhaya, a member of Dharwar Branch (M. & Karnatak) and a member of the Working Committee containing a proposal for an amendment of Bye-Law 67 (a)—"Visitors".*

Dr. P. K. Guha's report was adopted. A directive to the State/Territorial Branches was to be issued.

(11) *Letter dated 28/10/55 from Dr. S. B. Anklesaria, Ahmedabad, along with a copy of the Rural Practitioners Benefit (Benevolent) Scheme for the members of the I.M.A.*

Dr. H. N. Shivapuri (Lucknow) was requested to continue further work in connection with this matter and report to the Working Committee at its next meeting.

(12) *Employees' State Insurance Scheme.*

The Working Committee received with appreciation the information that the Employees' State Insurance Corporation and the Central Government had decided to extend the benefits of medical services to the families of the Industrial workers.

It, however, had apprehensions about the success of rendering effective medical aid without providing adequate facilities for diagnostic and consultative services.

The Working Committee was acquainted with the working of the E. S. I. Scheme by the representatives of the State and Territorial Branches where this Scheme had been implemented. The Working Committee, after discussion decided to request the E. S. I. Corporation and the State Governments to remove the following difficulties and handicaps of the Panel and Service doctors :

1. Delay in payment of dues to the Panel doctors. 2. Immediate payment of arrears of the dues to the Panel doctors. 3. A good number of workers who were included in the E. S. I. Scheme had not registered themselves with the Panel doctors. As a result of this, the doctors were being deprived of their legitimate and expected remuneration. It was, therefore, requested that the panel doctors should be paid for all such unregistered but insured workers. 4. The various Schedules of drugs should be uniformly enforced in all areas where the Scheme is working either with the Panel or Service system. 5. To improve upon : (1) Hospital accommodation; (2) Ambulence Service; (3) Diagnostic and Consultative Services, as these services are still very inadequate. 6. In view of the E. S. I. Enquiry Committees' reports on the working of the Scheme in various places, the

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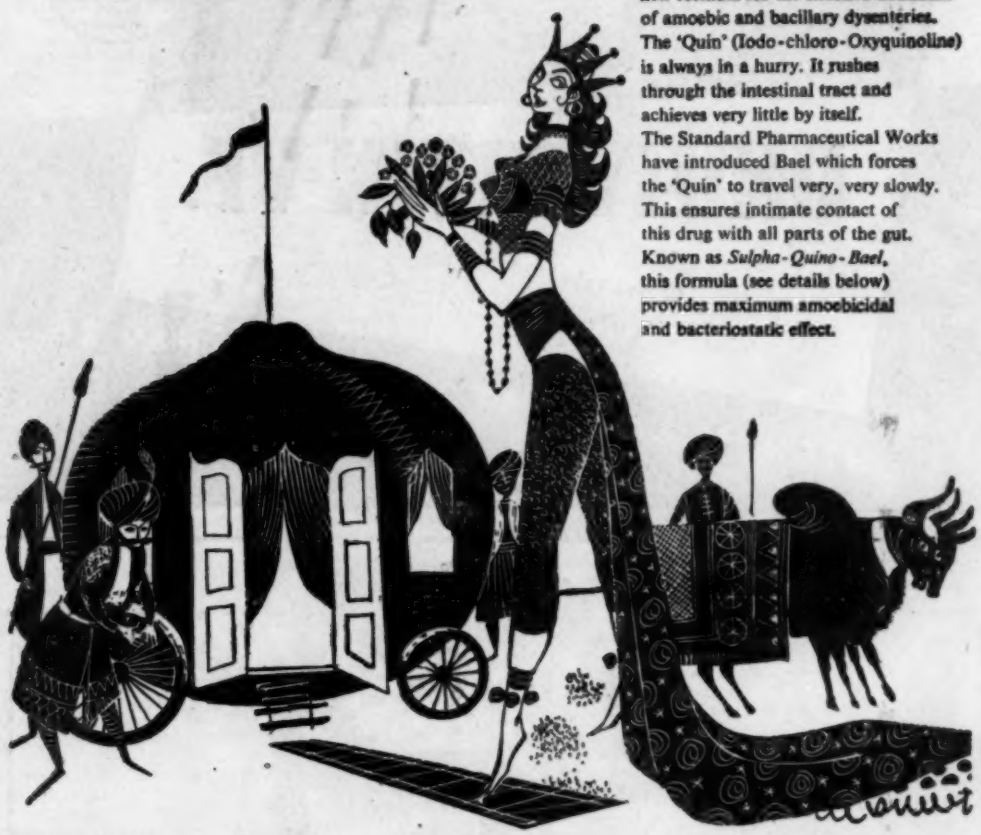

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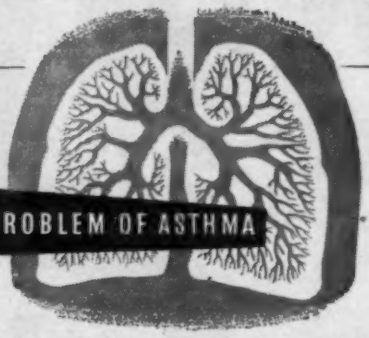

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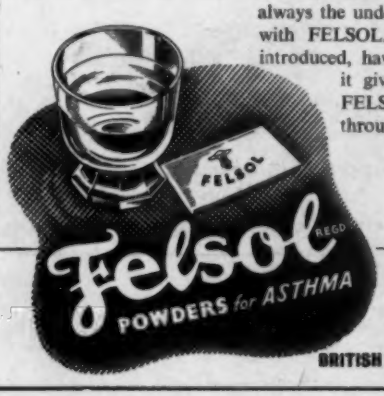

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Working Committee requested the State Governments to: (1)Revise the terms and conditions of Service of the medical personnel under the Service System and the regulations for their transfer; (2) Equip the dispensaries adequately and provide all drugs included in the schedules. 7. The Working Committee noted with satisfaction that the E. S. I. C. Inquiry Committees found the Panel system working fairly satisfactorily, that the doctors had rendered medical service well and that there was no slackness in the issue of certificates.

(13) *Letter No. 222/RPMS dated 4/12/56 from the Hony. Secretary, Rajputana State Branch together with a copy of resolution passed by the State Branch at the meeting of its Executive Council held on 30/10/55 re. representation on the Working Committee of the I.M.A.*

This item referred to a matter covered by the Special Enquiry Committee Report (Item 15 of the Agenda) and as such it was discussed under that clause.

(14) *Report of the Study Tour of Europe undertaken by a group of I.M.A. members.*

Dr. A. P. Mittra, the Hony. General Secretary, informed the house of the very successful conduct of the tour and the cordial reception received by the party in different countries by the different Medical Associations, Municipalities, Local Administrations and various Drug Manufacturing Houses.

(15) *Resolution of the Travancore-Cochin State Branch. re. formation of a Medical Practitioner's Society to render help to the members of the Association in situations which arise in the routine practice of the profession.*

As the draft Scheme was not yet ready, the item was postponed.

(16) *Consideration on the subject of the construction of the I.M.A. building and collections for Building Fund.*

The President informed the house about the funds collected by the Association so far towards the Building Fund. The total amounted to Rs. 43,199/3/9. The Working Committee was apprised of the visit of Dr. S. C. Sen to Bombay in this connection, resulting in Rs. 10,000 being promised by the Bombay Medical Profession. The President informed the members that he had initiated a similar drive at Calcutta and that he had already forwarded to the Head Office the amounts collected by auctioning the garlands presented to him during his tour.

The Working Committee after some discussion noted the followings :—

(1) The State Branches should collect at least Rs. 10/- on an average per member in their jurisdiction. This sum of Rs. 10/- is the very minimum. Members who were willing, could donate as much as they liked. A quarterly report of such collection should be submitted to the Central Office.

The Building Fund collections of the Sholapur Branch was appreciated as it had already collected and paid at the rate of Rs. 50/- per member.

(2) The Honorary General Secretary reported that in view of the setting up of a new Authority in Delhi—called the Delhi Provisional Development Authority—all new lay outs were being scrutinised and the lay out plans were liable to be altered. Due to this, all building plans were being held up. He also added that he had interviewed the architect the previous week when he informed us that the final plans for the Building would be taken in hand as soon as the D. P. D. A. approved of the new lay outs.

(17) *Distribution of organisational work of I. M. A. to Vice-Presidents.*

The President informed the Working Committee about the additional tours undertaken by the 3 Vice-Presidents in 3 zones of the country according to his instructions and guidance.

The House appreciated the services rendered to the Association by the Vice-Presidents.

(18) *Drugs and Therapeutic Trial Committee.*

Dr. K. K. Sen Gupta, Convener of the Sub-Committee, outlined a Scheme for therapeutic trial of drugs submitted to the Committee.

The house approved of the proposal that only those drugs would be given therapeutic trial which contained known and assayed ingredients. Preparations having numerous ingredients would not be accepted because of difficulty of assessment of effect of each component drug. The services of various Government laboratories would be utilised in chemical and pharmaceutical analysis of preparations. The cost of such services will be met from the fee received from the manufacturers seeking the approval of the Association. Both foreign and Indian preparations could be submitted for therapeutic trial. It was decided to form a Standing Committee for the purpose.

The composition of the members of the Standing Committee would be confined to members of the I. M. A. with co-opted members who might be Chemists and/or Pharmacologists.

The report of the Sub-Committee as presented was approved.

(19) *Request to State Government to subscribe for at least 200 copies each of "Your Health" and "Apka Swasthya" for purposes of Health Education.*

The Working Committee after due consideration decided that the poor response received from the State Governments was due to the fact that in such a matter the State Branches should have approached the Governments in their respective areas for subscriptions to the 2 Lay Health Journals of the Association.

The Working Committee decided that the State Branches should now be asked to co-operate in the matter.

(20) *Consideration of the nature of "Shramdan" referred to by the President in his Address.*

As the report was not ready, the matter was postponed.

(21) *Report of the Sub-Committee formed to draw up a Brochure on the Organisation of the All-India Medical Conference.*

As the report was not ready, the matter was postponed. It was resolved to co-opt Dr. Siddhu to this Committee.

(22) *Matters re. the Development Council of Pharmaceutical Drugs of the Ministry of Commerce and Industry.*

The Hony. General Secretary acquainted the house with the formation of the Council by the Union Government and its terms of reference and how this Council had on different occasions invited the Bengal State Branch, Madras State Branch and the Central Office to send representatives to meet it in its regional meetings.

The Working Committee was also acquainted with the composition of a Delegation visiting Russia and other countries abroad but it disapproved of the composition of its personnel.

(23) *Consideration of the Draft Rules of the Staff Provident Fund as corrected and modified by Shri R. K. Deb, Hony. Legal Adviser of the Association at Calcutta.*

In view of the fact that the Journal and Central Offices were situated at two different places, a common fund for the staff of the two offices, as envisaged in the draft rules was not practicable. Furthermore it will be impossible to elect representatives of the employees at a meeting to be specially held for this purpose, as the employees were posted at two different places, viz. Calcutta and Delhi.

For these reasons, it was decided to refer back the file to the Hony. Legal Adviser.

(24) *Invitation to send one Delegate of the Indian Medical Association to the Annual Meeting of the B.M.A. at Brighton from 9th to 13th July 1956.*

The action taken by the President in nominating Dr. R. K. Bhandari of Hyderabad as the Delegate of the I.M.A. to the Annual Meeting of the B.M.A. was noted.

(25) *4th International Congress on Diseases of the Chest sponsored by the Council on International Affairs of the American College of Chest Physicians to be held in Cologne, Germany from 19th to 23rd August, 1956.*

The action taken by the President in nominating Dr. K. S. Rama Rao of Ahmedabad as Delegate and Dr. S. K. Mukherje of Allahabad as Alternate Delegate of the I.M.A. to the Congress, was noted by the house.

(26) *The 10th General Assembly of the W.M.A. to be held at Havana, Cuba, from October 9 to 15, 1956.*

The action taken by the President in nominating Dr. S. C. Sen, the immediate past President and a member of the Council of the World Medical Association, was noted.

Dr. S. C. Sen who had attended the meeting at Havana, Cuba, gave a short resumé of the work done at the 10th General Assembly.

He also informed the house about the meeting of the Council of the W.M.A. in 1958 which is scheduled to be held in Australia and the keeness evinced by the Council members to spend some time in India on their way, to come into contact with the members of the I.M.A. The Working Committee directed the Central Office to make necessary arrangements at the appropriate time.

(27) *Consideration of grievances of medical officers employed by Indian Railways re. their pay, status and prospects.*

No progress had been made in this matter apart from informal approaches made to certain high Railway officials by some members of the Working Committee at Calcutta and Bombay.

Dr. Chamanlal M. Mehta (Bombay), Dr. C. S. Thakar (Bombay) and Dr. J. Mojumdar (Calcutta) agreed to collaborate in this matter with the help of Dr. Sukomal Sen, Hony. Joint Secretary of the I.M.A. at Calcutta, who will act as convener.

(28) *Letter No. 1329(4)/55-56 dated 10-3-56, from Dr. K. K. Sen Gupta, Calcutta, containing proposal to amend Bye-Law 42 and 36 of the I.M.A. regarding composition of the Journal Committee and duties and powers of the President respectively.*

The Working Committee decided that since the President was the head of the Association, he automatically should be a member of the Journal Committee.

Resolved that the following consequential changes in the Bye-Laws of the Association be made :—

1. By-Law 48(a)—after the words "Working Committee and" in line 2, add the following words : "shall preside over".
2. Bye-Law 54(C)—Put a comma after the sentence and add the following words "in the absence of the President".

(29) *Letter dated 13th August 1956 of Dr. C. S. Thakar, Convener, Life Insurance Sub-Committee, I.M.A. to the Officer on Special Duty, Life Insurance, Department of Economic Affairs, Ministry of Finance, New Delhi and on the same subject Dr. A. C. Ukil's communication to the Chairman, Life Insurance Corporation and Secretary to the Ministry of Finance, Government of India, New Delhi.*

The President informed the house of the steps and the correspondence he had undertaken with the Chairman of the Life Insurance Corporation. Dr. Ved Prakash, the Hony. Joint Secretary also informed the house what action he had taken from the Central Office including his interview with Mr. B. K. Kaul, Joint Secretary to the Government of India, Ministry of Finance and a Director of the Life Insurance Corporation.

Dr. C. S. Thakar, the Convener of the Life Insurance Sub-Committee, also reported the action he had taken including the interview with the Chairman of the Life Insurance Corporation at Bombay, along with Dr. Chamanlal M. Mehta and some other members of the I.M.A.

Dr. C. S. Thakar submitted a draft scheme for selection of medical examiners by the Life Insurance Corporation. The Working Committee approved of it and it was decided to forward it to the authorities concerned.

(30) *Letter No. 1452(p)/55-66 dated 21-3-56 of Dr. N. K. Munshi, President, Bengal State Branch of the I.M.A. re. resolutions passed at the All-India Medical Conference and State Conferences. Are these obligatory morally or constitutionally on the I.M.A. or its Branches?*

In view of the fact that the Sub-Committee appointed at Calcutta to go into the Rules of the various State Branches and the Rules of the Association to find out whether there were any contradictory Rules which needed revision, had not yet submitted its report because of non-availability of the Rules and Bye-laws of some of the State Branches, this matter was postponed.

(31) *Letter No. 1526-DMA/55-56 dated 1st September 1956 from the Hony. Secretary, Delhi Medical Association, enclosing a resolution re. shifting of the Journal Office of the I.M.A. to Delhi.*

This item had already been disposed of under item 15 of the Agenda.

5. (a) *Formation of New Local Branches.* (b) *Revival of Branches.* (c) *Suspension of Branches.* (d) *Branches declared defunct.*

(a) The Working Committee approved the formation of the following local Branches :—

Name of Local Branch	State/Terr. Br.	No. of members to start with	Date of formation
1. Monteswar ...	Bengal	5	1- 4-1956
2. Serampur (Dist. Hooghly)	—do—	10	—do—
3. Ukhra (Dist. Burdwan)	—do—	12	—do—
4. Khana (Dist. Burdwan)	—do—	8	—do—
5. Bhatar (Dist. Burdwan)	—do—	7	—do—
6. Uluberia	—do—	8	—do—
7. Raina (Dist. Burdwan)	—do—	5	—do—
8. Galsi (Dist. Burdwan)	—do—	18	—do—
9. Bulchandrapur (Dist. Burdwan)	—do—	6	—do—
10. Gushkara (Dist. Burdwan)	—do—	18	—do—
11. Lonavala ...	M. &. Karnatak	11	—do—
12. Ulhasnagar ...	—do—	12	—do—
13. Simrahi ...	Bihar	6	—do—
14. Jamtara ...	—do—	5	1-10-1956
15. Pakur ...	—do—	9	—do—
16. Kashipur ...	U. P.	5	1- 4-1956
17. Combay ...	Gujarat and Saurashtra	8	—do—
18. Petlad ...	—do—	12	—do—
19. Jammu ...	Punjab	11	—do—
20. Chandigarh ...	—do—	12	—do—
21. Kamptee (Dist. Nagpur)	Madhya Pradesh	5	1-10-1956
22. Sirahi ...	Rajputana	7	—do—

(b) The revival of the following local branches was duly approved by the Working Committee.

1. Tonk	...	Rajputana	with effect from 1- 4-1956	
2. Mokemeh	...	Bihar	—do—	—do— 1-10-1956

(c) The following local branches were declared suspended by the Working Committee as recommended by the State/Territorial Branches concerned :—

1. Darbhanga	...	Bihar	with effect from 1-10-1956
2. Madhubani	...	—do—	—do—
3. Madhupur	...	—do—	—do—
4. Jamui	...	—do—	—do—
5. Chapra	...	—do—	—do—
6. Bethiah	...	—do—	—do—

(d) The following local branches were declared "Defunct" as recommended by the State/Territorial Branches concerned :—

1. Chikadi	...	M. and Karnatak	with effect from 1-10-1956
2. Purulia	...	Bihar	—do—
3. Kurduwadi	...	M and Karnatak	—do—
4. Karmatar	...	Bihar	—do—
5. Dhandhuka	...	G. and Saurashtra	—do—

6. (a) *C.F.C. position for the year 1955-56 as on 30-9-56.*
(b) *C.F.C. arrears of previous years.*
(c) *Request for writing off of C.F.C. arrears.*

(a) & (b) Dr. A. P. Mittra, the Hony. General Secretary read out the statements on the C.F.C. position for the year 1955-56 as on 30-9-56, as also the statements of C.F.C. arrears for the last three years, for the information of the house.

(c) The question of writing off C.F.C. arrears in respect of Orissa State Branch was discussed. Dr. A. P. Mitra, the Hony. General Secretary, read out a letter No. 2/56-57 dated 10-10-56 from the Hony. Secretary, Orissa State Branch explaining the difficulties in realising C.F.C. arrears for the year 1952-53, amounting to Rs. 359/- in respect of some local branches in its jurisdiction.

The Working Committee decided to write off a sum of Rs. 359/- against the Orissa State Branch as above, on the recommendation of Dr. A. K. Bose, Vice-President, who had lately visited the State.

7. *Adoption of Audited Accounts* :

(1) Central Office from 1-10-55 to 30-6-56.
(2) (a) Journal Office from 1-1-56 to 31-3-56.
(b) Journal Office from 1-4-56 to 30-6-56.
(3) "Your Health" yearly Audited Accounts for the year 1954-55.

(1) The Audited Accounts of the Central Office for the 3 quarters ending 30th June, 1956 (as circulated) were duly adopted on being proposed by Dr. H. N. Shivapuri (Lucknow) and seconded by Dr. M. S. S. Siddhu (Lucknow).

(2)-(a) & (b) The Audited Accounts of the Journal Department for the two quarters ending 30th June, 1956 (as circulated) were duly adopted on being proposed by Dr. H. N. Shivapuri (Lucknow) and seconded by Dr. M. S. Siddhu (Lucknow).

(3) The yearly Audited Accounts of "Your Health" for the year 1954-55 (as circulated) were duly adopted on being proposed by Dr. H. N. Shivapuri (Lucknow) and Dr. M. S. S. Siddhu (Lucknow).

8. *Correspondence between Dr. H. N. Shivapuri previous Hony. Secretary, U. P. State Branch and Dr. P. K. Guha, Editor, Journal of the I.M.A. regarding starting of new volumes of the Journal.*

The Working Committee decided that starting of new volumes of the Journal of the I.M.A. on the basis of two halves of the Calender year was in consonance with international practice and as such, it approved the action of the Editor of the Journal.

9. *Letter dated 18-7-56 of the Hony. Secretary, Katihar Branch (Bihar) regarding moderate charges to be made for board, lodging and transport by the Reception Committee at All-India Medical Conference and similar requests received from various other branches of the I.M.A.*

This matter was referred to the Sub-Committee appointed to consider the organisational arrangements for the Annual Conferences and to prepare a Brochure for the guidance of the Reception Committees of the Annual Conferences. Dr. C. O. Karunakaran Chairman, Reception Commitee, 33rd All-India Medical Conference to be held at Trivandrum, explained in detail the arrangements they were making for the conduct of the Conference *vis-a-vis* the Delegates. He informed the Working Committee that they were going to charge an all-inclusive rate of Rs. 7/8/- per head per day whereas the actual cost per head would come to Rs. 15/- per day, since they were obliged to import caterers and contractors from Madras as locally sufficiently experienced contractors were not available. The Reception Committee was meeting the deficit of Rs. 7/8/- per head per day from its own funds.

Dr. Karunakaran further stressed that to enable satisfactory arrangements to be made, there should be early information received, at least by the end of November, about the prospective number of delegates and guests. The Reception Committee had therefore decided that Railway Concession forms need only be sent to those delegates on behalf of whom the registration fee of Rs. 5/- along with requisition form for such concession was received by due date. Dr. Guha, the Editor of the J. I. M. A., agreed to send this information to all the branches direct from the Journal Office.

The Trivandrum Reception Committee's decisions in these matters were unanimously endorsed by the Working Committee.

10. *Letter dated 14-6-56, from the Hony. General Secretary, the Indian Drugs Research Association, Poona, containing an appeal for financial contribution to their Association for Research work at their Laboratory*

The Working Committee regretted that it had no funds for the purpose and hence it was not able to contribute anything for the purpose of research at their Laboratory.

11. *Ministry of Health's letter No. D. 3230-IH/56, dated 26-6-56 requesting for a nominee of the I. M. A. to be included in the Delegation for expanded programme of Technical Assistance Training Course on Mutual Benefit Societies and social welfare administration to be held in Copenhagen. (Dr. M. A. Panwala, Hony. Joint Secretary, Bombay Territorial Branch, nominated).*

Noted.

12. *Election of President and three Vice-Presidents of the I. M. A. for the year 1956-57.*

The President appointed the following members as scrutineers : 1. Dr. Arvind M. Shah (Bombay). 2. Dr. B. K. Modak (Kalyan). 3. Dr. F. C. Shori (Amritsar). 4. Dr. Y. M. Subedar (Surat).

After the votes were counted by the scrutineers, the President announced the following results of the election :—

For the Office of the President.

S. No.	Name of Candidates		No. of Votes secured.
1.	Dr. C. S. Thakar (Bombay)	...	3373—Elected
2.	Dr. D. V. Venkappa (Madras)	...	2803
3.	Dr. B. B. Bhatia (Lucknow)	...	488
4.	Dr. S. N. Mathur (Lucknow)	...	447
5.	Dr. A. M. Deva (Ambala Cantt.)	...	45
6.	Dr. J. L. Rohatgi (Kanpur)	...	45

For the Offices of the Three Vice-Presidents.

1.	Dr. R. A. Bhagwat (Indore)	...	2065—Elected
2.	Dr. R. C. Goulatia (New Delhi)	...	1841 ,,
3.	Dr. A. K. Bose (Calcutta)	...	1143 ,,

4.	Dr. J. C. Banerjea (Calcutta) ...	1096
5.	Dr. S. P. Nath (Assam) ...	840
6.	Dr. T. S. Balasubramanyam (Trichy)	763
7.	Dr. N. P. Tripathy (Patna) ...	685
8.	Dr. U. Krishna Rao (Madras) ...	624
9.	Dr. (Mrs.) S. Satawalekar (Hyderabad)	513
10.	Dr. Ram Rakha Dhir (Jullundur City)	439
11.	Dr. M. V. Govindaswamy (Bangalore)	439
12.	Dr. M. K. Pandit (Hyderabad) ...	415
13.	Dr. V. B. Davalbhakta (Jalgaon) ...	398
14.	Dr. V. P. Vasudevan (Coimbatore)	394
15.	Dr. P. Veeraiah Choudhary (Guntur)	393
16.	Dr. (Mrs.) B. Thungamma (Banaras)	369
17.	Dr. M. V. Krishna Rao (Visakhapatnam) ...	365
18.	Dr. S. K. Ghosh Dastidar (Patna) ...	363
19.	Dr. R. Kalamegham (Trichy) ...	342
20.	Dr. B. N. Balakrishna Rao (Gwalior)	336
21.	Dr. S. K. Menon (New Delhi) ...	287
22.	Dr. D. Ram (Patna)	269
23.	Dr. Madan Prasad (Darbhanga) ...	264
24.	Dr. B. K. Ghosh (Barrackpore) ...	258
25.	Dr. H. C. Malik (Dhanbad) ...	254
26.	Dr. S. P. Srivastava (Agra) ...	253
27.	Dr. R. M. Kasliwal (Jaipur) ...	244
28.	Dr. M. Sivaram (Bangalore) ...	230
29.	Dr. Tulsi Das (Amritsar) ...	230
30.	Dr. R. M. Bhandari (Indore) ...	208
31.	Dr. T. K. Dayalu (Bangalore) ...	202
32.	Dr. L. M. Sanghvi (Jaipur) ...	197
33.	Dr. D. P. Dhar (Dhanbad) ...	196
34.	Dr. E. S. Reddy (Nellore) ...	194
35.	Dr. B. B. Ohri (Indore) ...	188
36.	Dr. B.K. Modak (Kalyan) ...	144
37.	Dr. Mohan Lal (Aligarh) ...	141
38.	Dr. S. P. Sinha (Darbhanga) ...	126
39.	Dr. T. S. Sastry (Madras) ...	123
40.	Dr. K. L. Pathak (Ludhiana) ...	100
41.	Dr. S. N. Acharya (Puri, Cuttack)	94
42.	Dr. A. J. Faridi (Lucknow) ...	85
43.	Dr. G. C. Patnaik (Cuttack) ...	71
44.	Dr. A. B. Acharya (Cuttack) ...	59
45.	Dr. K. N. Misra (Cuttack) ...	58
46.	Dr. S. L. Gargye (Lashkar, Gwalior)	27
47.	Dr. J. L. Rajdan (Lashkar, Gwalior)	27
48.	Dr. P. C. Duarah (Gauhati) ...	26
49.	Dr. P. L. Rishi (Kotah) ...	22
50.	Dr. Balkrishna Acharya (Patna) ...	5

The total number of ballot papers received was 322. 54 Ballot papers were invalidated according to Rules.

Accordingly, the following were declared duly elected :—

President : Dr. C. S. Thakar (Bombay).

3 Vice-Presidents : 1. Dr. R. A. Bhagwat (Indore)—Senior. 2. Dr. R. C. Goulatia (New Delhi). 3. Dr. A. K. Bose (Calcutta).

The house passed a vote of thanks to the scrutineers.

13. *Annual Report for the year 1955-56.*

The Annual Report was not yet ready.

14. *Letter No. 41/556 dated 28/1/56 of the Hony. Secretary, Bombay Territorial Branch of the I.M.A. re. representation of Bombay Territorial Branch on the Working Committee.*

As the Bombay Territorial Branch had paid up most of its dues towards C.F.C., the letter did not need any further consideration.

15. *Report of the Sub-Committee appointed to enquire into the working of the Central and Journal Offices.*

The Report of the Sub-Committee was taken up.

The numbers of pages and paragraphs referred to hereunder are as in the first print of the Report which had already been circulated to the members of the Working Committee.

The Report of the Committee, the additional remarks of Capt. P. B. Mukherji and three separate notes of Dr. B. V. Mulay were read and the Working Committee decided to consider the Report clause by clause. The following corrections, observations or decisions were recorded by the Working Committee and they are mentioned both under the sub-heads of the Report and under itemised paragraphs.

PART I—GENERAL REMARKS

Page 1, Column II, Item 9, 3rd line.

Correction. Free tea is supplied to the staff of the Journal Office and not to the Central Office staff.

PART II—REPORT ON INSPECTION OF THE CENTRAL OFFICE, IMA, DELHI.

Page 4, Column II, Item 2.

In the 9th, 13th and 16th lines, substitute the words "Working Committee" for "Central Office".

Page 4, Column II, Item 3.

Correction. In the 9th line, read "Rs. 28,000/- extra last year" instead of "Rs. 28,000/- extra per year".

PART II—COMMENTS AND RECOMMENDATIONS.

Page 5.

1. *Measures to improve the administration.*

(a) Office
(b) Accounts
(c) Dead Stock
(d) Journal

Under these sub-heads, all items (except those mentioned separately below) are to be disposed of by a directive from the President asking the office to carry out the the recommendations as suggested in the Report.

(a) Office—

Para 3. Accepted in principle, but details have to be worked out.

Para 4. Instead of the present para, read as follows : "The Central Office should only observe the holidays observed by the Central Government. The Journal Office to observe West Bengal Government holidays."

(b) Accounts—

Para 1. Instead read "Cash-Book to be completed every day and signed by a responsible office-bearer or officer at least twice a week".

Para 2, last line—delete the word "always".

Para 5 to read as follows :

"Cash surplus not needed in the near future be invested in short-term deposits (for 3 to 6 months) from Rs. 5,000/- upwards".

Para 9—to be deleted.

2. *Increase of expenditure.*

(a) Noted.

(b) Noted.

(c) The Working Committee by a large majority accepted the suggestion of a paid full-time Medical person as Secretary, provided funds were available.

(d) Noted.

(e) Vide below Item 4 (b), (page 6)—recommendations of the Working Committee with regard to reduction of strength of Central Council and the Working Committee.

(f) A letter from the World Medical Association resulting from negotiations by Dr. S. C. Sen was read, informing the I.M.A. that it would for the time being accept the I.M.A.'s subscription at a concessional rate which it was able to pay. The Working Committee decided to pay annually Rs. 5,000/- as its subscription to the World Medical Association. The Working Committee also decided to allocate up to Rs. 5,000/- as cost of passage and per diem expenses of one delegate to the General Assembly which the W.M.A. expected it to be sent every year.

17. Dr. M. V. Krishna Rao (Visakhaptnm) 365

(g) Noted.

(h) Noted.

3. *Increase of Income.*

Noted, but the Working Committee did not recommend increase in CFC for the present.

4. *Reduction of Expenditure.*

First para—Noted.

Recommendations of the Working Committee on item (a) and (b).

(1) Reduction of co-opted members at Working Committee meetings from 6 to 4.

(2) Except in emergencies, only 3 meetings of the Working Committee to be held during the year, namely : (1) April, (2) August or September and (3) at the time of the Conference in December.

(3) Reduction of the strength of the Working Committee.

The following resolution proposed by Dr. H. N. Shivapuri (Lucknow) and seconded by Dr. M. S. S. Siddhu (Lucknow) was unanimously adopted :—

"It is hereby resolved that the representation of State Branches on the Working Committee be on the following basis :—

0 to 499 members—no representation.
500 to 1500 members—one representative.

For every additional 1500 members or part thereof, one more representative and so on.

With regard to substitute members attending the Working Committee in place of the regular members, the Working Committee decided that the State Branches at the time of electing their representatives to the Working Committee, should also elect an equal number of alternate representatives who would then be entitled to be sent as substitutes as and when occasion arose. The Agenda of the meeting would also be sent to them".

(4) Reduction of strength of Central Council :—

The following resolution moved by Dr. A. P. Mittra (Delhi) and seconded by Dr. Ved Prakash (Delhi) was duly adopted by the Working Committee :—

"It is hereby resolved that the representation to the Central Council be on the following basis :

One elected representative for each completed unit of 100 members in the State/Territorial Branch area. Representation to be equitably distributed amongst the constituent local branches by the State/Territorial Branch.

The present method of sending substitute members to the Central Council to remain as it is".

5. This para of the Report was not accepted by the Working Committee. The Working Committee, however, recommended that the present method of nominations for the offices of the President and the 3 Vice-Presidents be discontinued and that the Working Committee itself should select a panel of 5 members of the Indian Medical Association for the office of the President and a panel of 15 members of the Indian Medical Association for the 3 offices of the Vice-Presidents. These names were to be forwarded to the local branches for the purposes of balloting. In view of the observations of the Enquiry Committee, the Working Committee was of the opinion that the new method suggested by it would be a decided improvement over the present method.

6. Accepted.

7. Accepted, with the addition of 3 more Standing Committees, as follows :—

(a) Building Committee.
(b) Medical Education and Research Committee.
(c) International Affairs Committee.
(d) Constitution and Ethics Committee.
(e) Finance Committee.
(f) Drugs and Therapeutic Trials Committee.
(g) Medical and Health Services Committee.
(h) Five Year Plans Committee.

PART III—REPORT OF INSPECTION OF THE JOURNAL OF THE I.M.A., CALCUTTA.

Pages 8 & 9.

Items 1-22 were noted.

COMMENTS AND RECOMMENDATIONS.

Page 9, Column II : Para 1.

The Working Committee decided to pay an allowance of Rs. 50/- to Dr. S. K. Sen to undertake the extra responsibility of maintaining discipline and supervision etc. in the Journal Office. His designation be changed to 'Sub-Editor and Manager' instead of Sub-Editor as at present. This arrangement is to last till the appointment of a paid Secretary of the Journal, or other alternative arrangements are made.

Page 9, Item 2.

Noted with the following comments :—

The Journal should give due and increased prominence to news and memoranda from the Central Office of the I.M.A. and from the State Branches. Editorials should be invited from specialists and experts both on Clinical and Topical subjects.

INCREASE OF EXPENDITURE

Item 3, para 2.

Accepted in principle.

Item 3, para 3, page 10.

Accepted in principle.

Item 3, para 4, page 10.

The President and the Journal Committee were requested, to find suitable new premises for the Journal Office keeping in view the financial limit of this clause.

Item 3, para 4, page 10, Column 1.

Accepted.

INCREASE OF INCOME

Item 5, para 1.

Accepted.

Item 5, para 2

Noted.

Item 5, para 3.

Noted. The Editor, however, explained the difficulties entailed but he agreed to go into the matter further to implement this recommendation.

Item 6.

The Working Committee considered this item from all angles and Dr. P. C. Bhatla (Delhi) seconded by Dr. R. C. Goulatia (Delhi) moved the resolution under items 4 (31) and 16 of the Agenda.

Dr. H. N. Shivapuri (Lucknow) seconded by Dr. M. S. S. Siddhu (Lucknow) moved the following resolution :—

"After considering the Enquiry Committee Report and the situation in general, the Working Committee does not recommend shifting of the Journal Office from Calcutta at present".

Upon Dr. Bhatla's withdrawal of Delhi Medical Association's above-mentioned resolution, the resolution moved by Dr. Shivapuri was voted upon, 20 voting for it and 11 against it. The resolution was carried.

"The Working Committee requested the Editor of the Journal to submit the considered observations of the Journal Committee on the relevant portion of the Enquiry Committee's Report. The Working Committee authorised the Central Office to circulate this note, along with the Enquiry Committee Report to the Central Council and, in due course, to the Local and State Branches."

16. *Letter No. 321/DMA/55-56 dated 30/1/56 from the Hony. Secretary, Delhi Medical Association containing a copy of a resolution passed at the Annual General Meeting of the Branch held on 9-1-1956 requesting the Central Office of the I.M.A. to shift the Office of the Journal of the I.M.A. to Delhi in implementation of the Resolution of the Central Council passed in October, 1946.*

This was considered along with item No. 15.

17. *Letter dated 19/3/56 of Dr. C. O. Karunakaran of Travancore-Cochin containing a resolution re. standard of education in modern medicine.*

This matter had already been considered by the Standing Committee on Medical Education and Research and is incorporated in the report of that Sub-Committee. This report was circulated to the members of the Working Committee and accepted.

18. *Letter No. M. 61-217/50 dated 19-3-56 of the Director of Health Services, Himachal Pradesh, Simla containing a proposal to start District Branches of the I.M.A. in five districts of Himachal Pradesh, besides Sirmoor District Branch already functioning.*

The Working Committee did not agree to the proposal, as there was no provision for District Branches in the Rules of the Indian Medical Association.

19. *XIVth International Conference on Tuberculosis to be held in New Delhi in January, 1957.*

1. List of delegates nominated by the I.M.A. sent to the Secretary, Tuberculosis Association of India, New Delhi.
2. Dr. Shivapuri's letter dated 10/8/56 re. T.A. and Delegates' registration fee etc.

1. Dr. Ved Prakash, the Hony. Joint Secretary informed the Working Committee that a list of delegates nominated by the State and Territorial Branches and Central Office had been forwarded to the Organising Secretary of the Conference. He also informed the house that the Hony. General Secretary had been nominated by the President to be a member of the Reception Committee of the Conference representing the Indian Medical Association and that a sum of Rs. 200/- had been paid to the Reception Committee as its membership fee.

2. The Working Committee regretted that the Association could not meet the T.A. or the delegation fee as requested in Dr. Shivapuri's letter.

20. *Invitations for the All-India Medical Conference to be held in 1957.*

Two invitations had been received—one from the Mysore State Branch for holding the Conference at Bangalore and another from the Allahabad Branch.

The Working Committee recommended to the Central Council to accept the invitation of the Mysore State Branch.

21. *Reorganisation of Indian States under the State Reorganisation Plan from November 1, 1956—the effect of the plan on the State and Territorial Branches of the I.M.A. as regards their jurisdiction and reformation on the basis of the reorganisation.*

The Working Committee decided to maintain the *status quo* till 31st March, 1957. The Central Office should, in the meanwhile, proceed with the reorganisation so that all matters concerning it were finalised by that date.

22. *Residency Training Abroad. (List of candidates sent abroad in June, 1956 circulated to members of the Working Committee).*

The Working Committee noted the information given by the Hony. General Secretary.

23. *Letter of Dr. H. N. Shivapuri (Lucknow) dated 5-9-56 re. method of election of the President and 3 Vice-Presidents.*

This item had already been discussed under Item 15 of the Agenda.

24. *Letter of Dr. H. N. Shivapuri (Lucknow) dated 5-9-56 re. meetings of the Sub-Committees of the I.M.A.*

The house accepted, in principle, Dr. Shivapuri's proposal that meetings of the Standing and Sub-Committees should ordinarily be held a day or two before the meetings of the Working Committee.

25. *Any other business with the permission of the President.*

(1) Letter No. 30/53/56-57 dated 10-10-56 of U.P. State Branch suggesting to send its representatives in large numbers for the next General Elections.

The Working Committee did not approve of the proposal.

(2) Bill of Dr. B. V. Mulay in respect of expenses incurred in connection with the work of the Special Committee of Inspection in the details of the working of the Central Office of the I.M.A. and the Journal of the I.M.A.

The Working Committee sanctioned the payment of Dr. Mulay's Bill amounting to Rs. 436/10/3.

(3) Letter No. YH/1726/55-56 dated 29-9-56 from the Editor, "Your Health" re. appropriation of Funds allocated to different heads of Budget.

The Working Committee approved of the request of the Editor of "Your Health".

(4) Dr. J. Mojumdar (Calcutta) informed the house of the recently reported decision of the Government of the Union of South Africa regarding the introduction of the policy of apparthied in the medical field, particularly regarding the establishment of separate Blood Banks for White and non-White sections of the population.

The Working Committee passed the following resolution :—

"Resolved that the Working Committee of the Indian Medical Association views with grave concern the recently reported decision of the Government of the Union of South Africa regarding the establishment of separate Blood Banks for White and Non-White sections of the population of the Union. This attitude of the Government is unscientific, inhuman and is a travesty of physiological principles. This interference of the South African Government in matters of giving proper aid in medical emergencies is strongly condemned by the Indian Medical Association".

"It is further resolved that copies of this Resolution be forwarded to the Government of India, the World Medical Association, the World Health Organisation, the Commonwealth Medical Conference and the South African Medical Association."

(5) The President read a letter from Dr. D. V. Venkappa (Madras) objecting to issuing of an election manifesto by some members of the Indian Medical Association wherein the printed sheet bore the words "Indian Medical Association" at the top of the page.

The Working Committee did not approve the use of the name of the Association in this manner in relation with an election manifesto.

(6) The following resolution :

"In view of the difficult financial position of the Central Council, it may not be possible for the Central Council to pay T.A. to members of the Central Council and the Working Committee attending the meetings to be held at Trivandrum. As such, the Working Committee seeks power, according to Rule 46 to amend the relevant parts of bye-law 39, so that if necessary the Central Council may not be liable to pay T.A. to members of the Central Council and Working Committee attending the meetings to be held in Trivandrum at the time of the next All-India Medical Conference"

passed at the 57th meeting of the Working Committee held at Calcutta on 7th and 8th April 1956, was next taken up.

The Hony. General Secretary informed the Committee that 42 branches had informed the Central Office that they were against the Resolution and 17 branches in favour of the Resolution. The Working Committee after discussion decided that a re-consideration of this matter would be undertaken at its next meeting at Trivandrum and if the financial position of the Association at the end of the year was found to be adverse, then it would recommend to the members of the Working Committee to forego half of the T.A. payable to them. In case of the members of the Central Council attending the annual meeting, full T.A. would be paid.

Acknowledgments.

The following resolutions were proposed from the Chair and passed unanimously :—

(1) This meeting of the Working Committee of the Indian Medical Association places on record its deep appreciation of and thanks for the hospitality and courtesy accorded to its members on the occasion of the meeting of the Working Committee held at Dehra Dun on 24th, 25th and 26th October, 1956, by :—

(a) The President and members of the Dehra Dun Branch of the Indian Medical Association.

(b) Reception Committee of the 21st U. P. Medical Conference.

(2) This meeting of the Working Committee of the I.M.A. offers its grateful thanks to the authorities of the Doon Club for permission to hold its meeting in their premises at Dehra Dun.

(3) This meeting of the Indian Medical Association offers its grateful thanks to the following, for their hospitality in entertaining the President and members of the Working Committee on the occasion of its meeting held on 24th, 25th and 26th October, 1956 at Dehra Dun.

1. Dr. S. K. Shome. 2. Dr. Jagmohan Singh. 3. Dr. (Major) Hari Singh. 4. Dr. R. N. Sharma. 5. Dr. M. R. Kohli. 6. Dr. (Mrs.) F. I. Chatterjee. 7. Dr. Pritam Kaur. 8. Dr. Ram Murti. 9. Dr. Mitra Nand. 10. Dr. Durga Prasad.

With a vote of thanks to the chair, the meeting came to an end.

Sd./- A. C. Ukil,
President.

Sd./-A. P. Mittra,
Hony. General Secretary.

BRANCH NOTES

ALIGARH BRANCH—The annual meeting of the branch was held on 24-10-56. Dr. D. P. Sharma presided. Dr. Col. Barqak Narain, medical adviser to the Community Projects Ministry, Government of India attended the meeting. Col. Barqak Narain in giving a detailed account of the Community Project Scheme said that more than 1,200 blocks were under operation. Referring to Trachoma he said, "It is a specialised disease and we may have a National Trachoma Programme." The President thanked Col. Narain for the speech. After the usual routine business, office bearers for 1956-57 were elected with Dr. D. P. Sharma as president, Dr. H. Rahman as hony. secretary and Dr. R. T. Singh as joint Secretary. The annual report of 1955-56 shows a new experiment of the branch in holding a social gathering of the medical men of the District at the Industrial Exhibition. Dr. Keith Lyle, Dr. S. C. Shippered from United Kingdom and Dr. Lal, Director Medical and Health services, U.P. paid visits to the branch. Dr. Shippered gave a talk on "Modern Trends in Anaesthesia."

ALLAHABAD BRANCH—The annual meeting of the branch was held on 17-11-56. Office bearers for 1956-57 were elected with Dr. K. R. Jha as president, Dr. P. N. Gupta as general secretary, Dr. A. Mukerji as joint secretary, Dr. B. Chowdhury as social secretary and Dr. S. B. Luttra as scientific secretary. The annual report of the branch for 1955-56 shows an increase in membership from 98 to 108. Sixteen meetings were held in addition to executive committee meetings, during the year. Clinical and Scientific subjects were discussed.

ANANTAPUR DISTRICT BRANCH—The annual meeting of the branch was held on 20-10-56. The annual report and statement of accounts were adopted. Office bearers for 1956-57 were elected with Dr. P. Jagannathan as president, Dr. V. K. Rajaram Rao as hony. secretary and Dr. K. Rangiah Chetty as joint secretary. The annual report of the branch for 1955-56 shows a fall in membership. Six meetings were held during the year and interesting clinical subjects were discussed.

BULSAR BRANCH—A general meeting of the branch was held on 30-9-56. Office bearers for 1956-57 were elected with Dr. E. L. Cunningham as president and Dr. J. H. Parikh as honorary secretary. Dr. Vasi from Dabu Hospital, Navasari and Dr. Desai from Navasari spoke on "Pain in Abdomen".

MUZAFFARNAGAR BRANCH—The annual report of the branch shows regular monthly meetings were held and clinical subjects were often discussed. Membership rose from 39 to 42. Financial position improved during the year.

MYSORE BRANCH—The annual general meeting was held on 23-10-56 under the chairmanship of Dr. B. Venkatasubba Rao. Sixty seven members were present. The names of office-bearers for 1956-57 were announced.

A meeting of the State Council of the branch was held on 22-10-56. Thirty members were present. Dr. Guru Das was elected as hony. secretary. Dr. S. C. Kuppanna was elected as joint secretary.

Under the auspices of the branch a Refresher Course will be held from 21-1-57 to 29-1-57. Members desirous of attending the course should contact the secretary of the branch.

NABADWIP BRANCH—A general meeting of the branch was held on 28-10-56 with Dr. M. L. Kundu in the chair. Office bearers for 1956-57 were elected with Dr. L. M. Kundu as president, Dr. N. N. Saha as hony. secretary and Dr. S. C. Saha as joint secretary.

NASIK BRANCH—The annual report of the branch shows that 5 lectures were arranged during the year. Membership increased to some extent. Finances also show an increase over last years' balance. In all, 12 meetings were held. The branch is running a Vasectomy centre.

NAWAUSHAHR BRANCH—A special meeting of the branch was held on 30-9-56. The members agreed to follow the co-operative Health Scheme as in Ambala. Office-bearers for 1956-57 were elected with Dr. Capt. Jasmar Singh as president, Bhagat Singh Sandhoo as secretary and Dr. Parshotam Dev as joint secretary. Thirteen doctors were present.

PATNA BRANCH—The annual general meeting of the branch was held on 8-9-56 with Dr. U. P. Sinha in the chair. The members condoled the death of Dr. R. Dyal. Office bearers were elected with Dr. M. A. Hai as president, Dr. A. K. Sinha as hony. general secretary, Dr. R. K. Verma as finance secretary, Dr. K. D. Choudhury, Dr. Rai C. N. Sahay, Dr. B. K. Maitin as joint secretaries.

RAIPUR BRANCH—In a meeting held on 16-8-56, the members condoled the death of Dr. B. K. Banerjee a member of the branch, on 13-8-56.

RANCHI BRANCH—The annual meeting of the branch was held on 9-11-56. Lt.-Col. Gupta presided. Office-bearers for 1956-57 were elected with Dr. D. V. G. Muthu as president, Dr. N. P. Sribastava as hony. secretary, Dr. S. P. Verma as joint secretary and Dr. A. R. Sahay as asst. Secretary.

PORBANDAR BRANCH—The annual general meeting of the branch was held on 9-9-56 with Dr. H. H. Chavda in the chair. Thirteen members were present. Office bearers were elected for 1956-57 with Dr. H. H. Chavda as president, Dr. K. W. Waghela and Dr. B. D. Jhala as hony. secretaries of the branch.

SAHARSA BRANCH—The annual general meeting of the branch was held on 26-9-56 with Dr. S. M. Hasim in the chair. Office bearers for 1956-57 were elected with Dr. S. M. Hasim as president, Dr. J. Choudhury as secretary and Dr. S. S. Jadav as joint secretary.

SHILLONG BRANCH -A general meeting of the branch was held on 18-9-56. Office bearers were elected with Dr. J. K. Saikia as president, Dr. C. N. Hazarika as hony. secretary and S. Chaudhuri as hony. joint secretary.

At a meeting of the branch held on 27-9-56, the members condoled the death of Dr. B. Borooah, an enthusiastic member of the association.

A meeting of the branch was held on 20-10-56 to elect a president and vice-president for the Assam State Branch, IMA. The president and members of the Medical Council of India were entertained to tea and a cultural show in the evening. Fifty seven members were present.

SHIMOGA BRANCH—A Special meeting of the branch was held on 17-10-56 with Dr. S. Srinivasan in the chair. Dr. G. V. Joshi spoke on "The Working of the Indian Medical Association."

The annual general meeting of the branch was held on 22-23 September 1956. In the medical section five papers, and in the surgical section also five papers were read. Dr. (Miss) Lalitha Lingaiah besides, read a paper and demonstrated Gynaecological condition with case report. Office bearers were elected with Dr. S. Srinivasan as president and Dr. A. S. Kantharaju Setty as hony. secretary.

SHIMOGA BRANCH—A meeting of the branch was held on 10 November 1956. Dr. D. Shamanna presided. The following cases were demonstrated: (1) Unilateral Proptosis by Dr. B. Krishna Murthy, (2) Syphilitic Aortitis by Dr. B. R. Shama Rao, (3) A case of Bilateral non-decent of Testis by Dr. K. N. Dathathri. Films were also shown to the members.

SHOLAPUR BRANCH—The annual report of the branch for 1955-56 shows a slight fall in membership. Twelve general body meetings were held during the year and many clinical subjects were discussed. The branch provided 4 surgeons, 1 registrar, 4 House Surgeons, 1 Resident Pathologist and 2 Anaesthetists for the surgical camp at Pandharpur. Thirty two members of the branch participated in the examination of 2162 students in the year. The branch donated Rs. 18/8/- to the Sidheswar Tank Improvement Project and Rs. 203 to the District Flood Relief Fund. Leprosy Week was observed from 4-3-56 to 15-3-56. The number of doctors participating in the Village Medical Uplift Scheme was 20. Office bearers for 1956-57 were elected with Dr. V. D. Telang as president and Dr. F. N. Sheikh as hony. secretary.

SIMDIGA SUB-DIVISIONAL BRANCH—A meeting of doctors of Simdiga sub-division was held on 5-9-56 and a branch was formed with Dr. K. Sinha as president, Dr. S. C. Adhikary as hony. secretary and Dr. K. K. Sengupta as hony. joint secretary.

A meeting of the branch was held on 2-10-56. Seven doctors were present. Dr. H. P. Sinha read a paper on "Infective Hepatitis".

TANJORE DISTRICT BRANCH—A meeting of the branch was held on 3rd February 1956. Forty Doctors attended. Dr. S. Balasubramanyam, D.O.M., Tanjore presided and Dr. N. S. Narasimhi Iyer of Madras spoke on "Management of retention of Urine".

A meeting of the branch was held on the 25th March 1956. Thirty-seven doctors attended. Dr. N. R. Subramanyam presided. Dr. P. A. Menon of Golden Rock spoke on "The common surgical conditions".

A meeting of the branch was held on the 29th April. Twenty doctors were present. Dr. N. R. Subramanyam was in the chair. Dr. V. Iravatham of Trichinopoly spoke on "The changing concepts in the Serodiagnosis of Syphilis".

A meeting of the branch was held on the 27th May 1956. Dr. N. R. Subramanyam presided. Twenty-five doctors were present. Dr. R. Kalamegham of Trichinopoly spoke on "The limping child".

A meeting of the branch was held on the 22nd July 1956. Thirty-six doctors attended and Dr. N. R. Subramanyam presided. After routine business, Dr. U. Umapathy Mudaliar, District Medical Officer, Trichonopoly spoke on the "The Methods of approach to the patient".

A meeting of the branch was held on the 29th August 1956. Thirty-six doctors atetnded. Dr. N. R. Subramanyam presided. Dr. U. Mohamed of R. M. Hospital, Tanjore spoke on "Cardiovascular Emergencies in general practice".

A meeting of the branch was held on the 7th October 1956. Sixty doctors attended. Dr. N. R. Subramanyam was in the chair. After routine business, Dr. R. Subramanian of Madras spoke on "Coronary Thrombosis and its management".

The 20th annual conference of the branch was held on the 14th October. Office bearers for 1956-57 were elected with Dr. M. Mohamed Ismail as president and Dr. S. Narayanan as hony. secretary.

TENALI BRANCH—A meeting of the branch was held on 29-7-56. Dr. G. Ethirajam of G. H. Hospital, Guntur spoke on "Orthopaedic Emergencies". Dr. V. Sandararamaiah presided.

In a meeting held on 25-8-56, Dr. K. Sadasivarao of Peoples Clinic, Guntur spoke on "Retention of Urine, Aetiology, Management and Treatment." Dr. V. Sundararamaiah presided.

The anniversary meeting of the branch was held on 22-9-56. Dr. Y. V. Subbarao of Guntur spoke on "Recent Advances in Thoracic Surgery."

The inaugural meeting of the branch was held on 20-10-56. Office bearers were elected with Dr. K. V. Narasimha Rao as president, Dr. T. Namassivaiah as secretary and Dr. K. Punnaiah as joint secretary. D. Y. S. Ramachandra Redde of G. M. Guntur on "Some Nutritional Problems in Children".

TONK BRANCH—A meeting of the branch was held on 24-10-56. The secretary presented a review of the branch for 1955-56. Dr. P. L. Jauhar and Dr. J. C. Bhagi were elected president and secretary of the branch respectively for the year 1956-57.

VIJYAWADA BRANCH—Office-bearers for the year 1956-57 were elected with Dr. P. Venkateswararao as president and Dr. B. Sambamurty as hony. secretary.

WAI-PANCHGANI BRANCH—A meeting of the branch was held on 28-10-56. Dr. B. R. Billimoria showed the members some interesting cases. He also spoke on "Pneumonectomy as an emergency for severe Haemomtysis and surgical interference in pulmonary tuberculosis". Dr. Saxena of Panchgani spoke about his experience of treating cases of pulmonary tuberculosis with antibiotics along with oral cortison.

At a meeting of the branch office bearers were elected with Dr. V. G. Thakar as president, and Dr. S. D. Ajagaonkar (Panchgani) and Dr. P. S. Marathe (Wai) as joint hony. secretaries.

WEST KHANDESH BRANCH—A special meeting of the branch was held on 16-9-56 with Dr. L. H. Paithankar in the chair. The meeting pointed out the injustice on the part of the State Life Insurance Corporation in the selection of medical examiners.

The annual meeting of the branch was held on 7-10-56. Office bearers were elected with Dr. Mrs. Sumatibai Godbole as president, Dr. K. G. Ratnaparkhi and Dr. R. N. Atre as secretaries.

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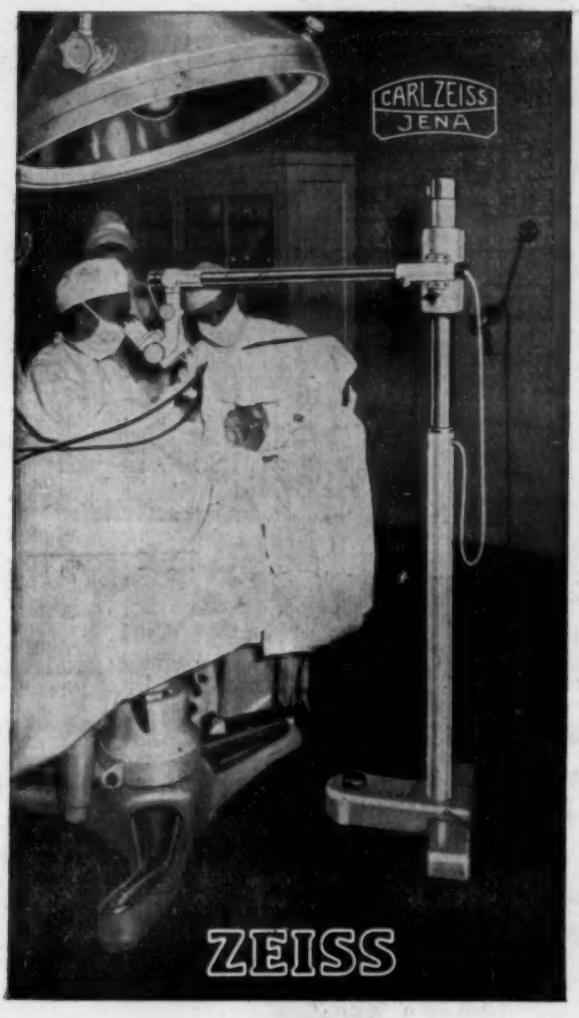

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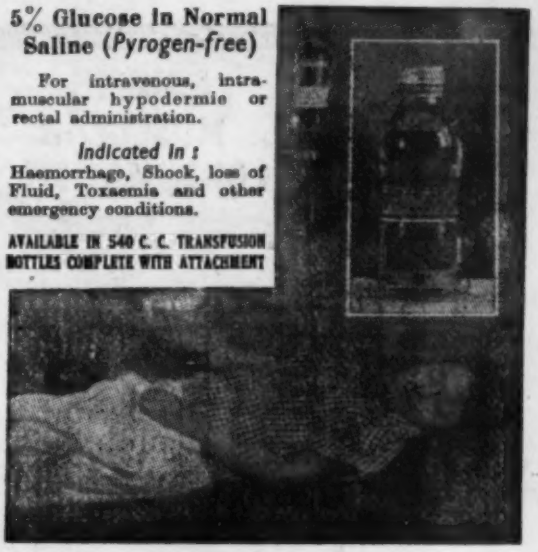

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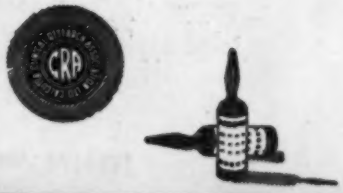

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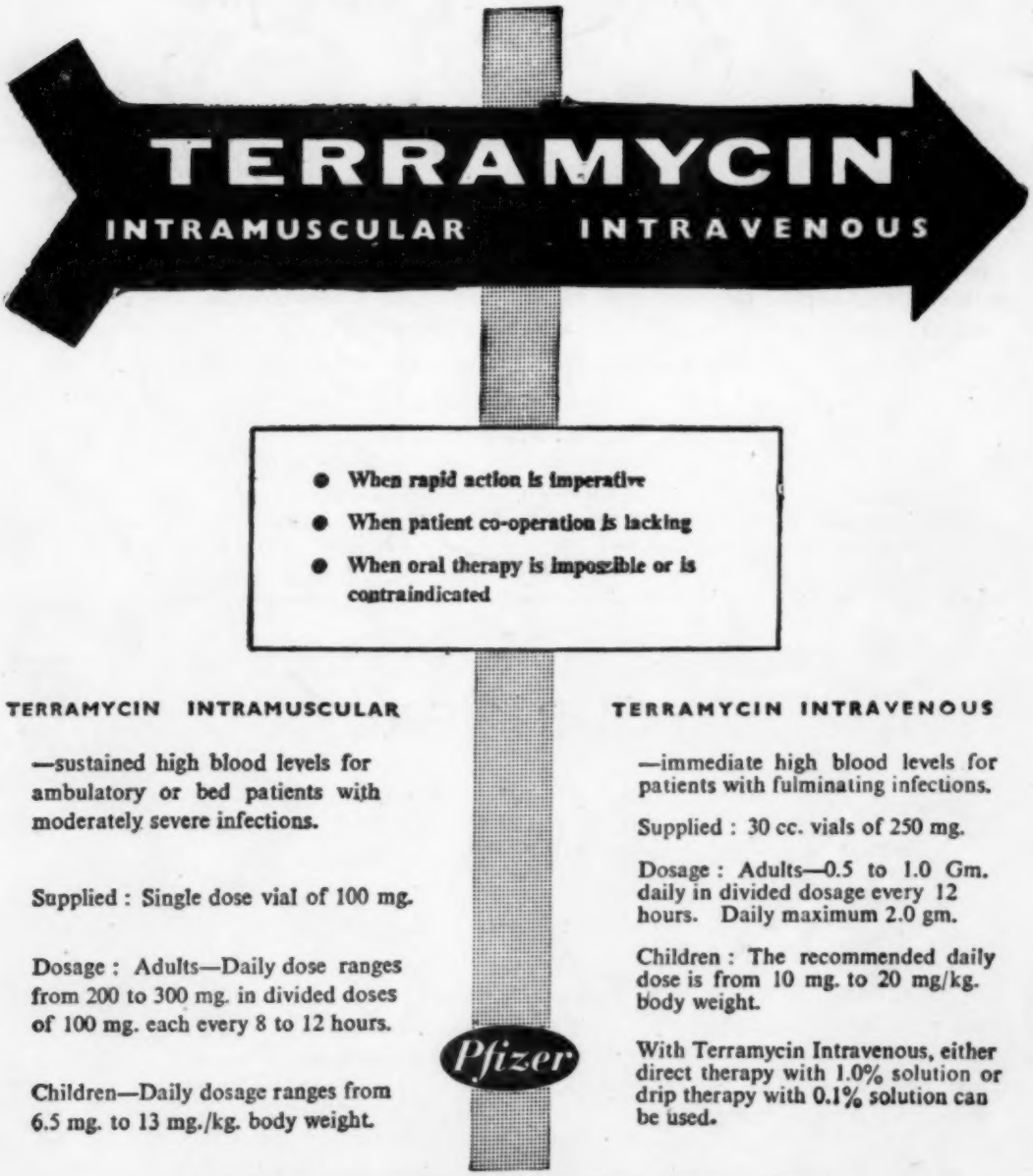
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